



**Northern Territory Department of  
Environment, Parks and Water Security**  
Review of the NT's implementation of the National  
Water Initiative in relation to water planning

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## Executive Summary

### Introduction

Badu Advisory has been engaged by the Northern Territory (NT) Department of Environment, Parks and Water Security (DEPWS) to review the NT's implementation of the National Water Initiative (NWI) in relation to water planning, to support its continuous improvement of water planning. The NWI was originally adopted in 2004 with guideline materials added later to become part of the NWI framework.

### The NT Context

The NWI sets guidance that recognises that States and Territories have different requirements and challenges in water planning depending on their individual context. The review of water planning is in the context of the unique characteristics that exist in the NT primarily including:

- A large land area with a small population
- A relatively high proportion of Aboriginal people residing in very remote areas
- At an early stage of development with very limited demand for trade
- Unique land tenure arrangements (viz. NT freehold, Aboriginal freehold and pastoral leasehold)
- Potential for mining and agricultural development

- Highly seasonal and spatially variable climate
- Primarily dependent on groundwater • Water resources are largely unregulated.

### **Current water planning processes in the NT**

Our review concluded that NT's water planning processes are consistent with the provisions of the NWI and subsequent guideline documents.

In summary we observed that:

- A. The type of specification of existing water extraction licences in the NT is currently appropriate for the context
- B. Statutory water allocation plans (WAPs) are progressively being developed for areas where there is emerging demand and where there is the most competition for the use of groundwater. Outside those areas, NT-wide policies and procedures are being used to guide consistent decision making.
- C. Trading of water extraction licences is available in areas covered by WAPs
- D. The water planning processes seek to balance social, economic and environmental values
- E. Research and scientific assessments are carried out to develop knowledge to support planning processes
- F. Community engagement is carried out as a part of the planning processes
- G. Aboriginal Water Reserves are established under WAPs.

### **Areas for future improvement**

Water planning is a continuous process that should always be subject to review to identify potential ways to better meet existing and emerging needs. This is acknowledged by the NT Government, which is seeking to improve and update its water management framework evidenced by the priority actions identified in the Draft Territory Water Plan that was released in 2022. For example, the draft plan proposes that:

By 2026, the NT Government will develop new legislation to replace the Water Act 1992 (NT) and provide a regulatory regime that supports sustainable development through contemporary water resource management.

In particular, the Draft Territory Water Plan further states that:

The Water Act 1992 (NT) has provided a sound legislative basis for the investigation, allocation, use, control, protection, management and administration of water resources. However, it does not provide all the necessary mechanisms for best practice water resource management in the current context of climate change, growing competition for water and community expectations around governance and accountability.

In 2020, the Productivity Commission (PC) assessed the progress of the Australian, State and Territory governments since 2017 towards achieving the objectives and outcomes of the NWI. It also provided practical advice to jurisdictions on future directions for national water reform through renewal of the NWI. This review is consistent with the 2020 PC inquiry to identify continuous improvement opportunities in line with the NWI.

Our review identified seven focus areas for continuous improvement of the way that the NT implements the NWI's water planning related aspects. These are summarised in Table 1.

Table 1 – Focus areas for future continuous improvement of NT's implementation of the NWI's water planning aspects

Focus area	Considerations for NT water planning
<p><b>1. Early and ongoing stakeholder engagement</b></p>	<p>The NT faces particular challenges with respect to engagement with remote communities given the NT's unique planning context.</p> <p>Fit-for-purpose stakeholder engagement hinges on early, ongoing and meaningful engagement. Successful engagement should involve seeking ways to address any differences in bargaining power between stakeholder groups.</p> <p>DEPWS's experiences in stakeholder engagement (both its successes and shortcomings) gained from its recent and ongoing water planning processes could be used to identify and inform a continuous improvement and adaptive management approach to future stakeholder engagement processes.</p>
<p><b>2. Water interests of Aboriginal and Torres Strait Islander people</b></p>	<p>Any renewal of the NWI is likely to incorporate an increased focus on the water interests of Aboriginal and Torres Strait Islander peoples. As flagged in the 2020 PC Inquiry, all governments are working with Traditional Owners to determine their best and preferred pathway for ongoing economic development and for increasing First Nations peoples' influence in shaping water management and planning outcomes that affect them.</p> <p>With a high Aboriginal population involving multiple groups spread across a large area, the challenges for NT planning are significant. However, this presents an important opportunity for the NT to be national leaders in collaboratively developing and implementing approaches for other jurisdictions to consider and follow.</p>
<p><b>3. Adequate time for water planning</b></p>	<p>Fit-for-purpose, meaningful stakeholder engagement takes time. Because of the challenges facing stakeholder engagement in the NT, sufficient time must be allowed at the outset when designing NT's water planning processes and timeframes to enable effective stakeholder engagement and, ultimately, acceptance and ownership of planning outcomes.</p> <p>Water planning can only be successful - and the opportunity for locals to understand and accept its outcomes – if stakeholders remain meaningfully engaged from an early point in the planning process all the way through to the implementation phase. It is critical that planning timetables allow sufficient time for this to occur, including flexibility for additional time, if necessary, to ensure that stakeholders have adequate time to explore alternative planning scenarios, discuss the issues and understand the rationale for ultimately advancing planning proposals. This will also help to reposition stakeholders as partners working with DEPWS when implementing water planning outcomes.</p>
<p><b>4. Precautionary decision making outside water allocation plan areas</b></p>	<p>Fit-for-purpose water planning means taking into account the extent to which systems are allocated. In fully allocated systems, this is likely to involve allocating water resources under a WAP. However, the NWI contemplates that there may be circumstances where a jurisdiction chooses to not have a water plan for a resource and where simple policy positions or rules may suffice for making decisions about access to water.</p> <p>In the NT, preparation of WAPs is a challenge because of its size and the challenges in engaging stakeholders, the nature of its water resources, its land tenure arrangements as well as the current limited demand for water in many areas. The NT has appropriately focused WAP development on resources where the emerging demand for water is high whilst in other areas, it has sought to apply water planning principles and policy-based systems of rules when dealing with</p>

	<p>licence applications. These decisions are backed by assessment processes that are aligned to the risks and characteristics of the resources.</p> <p>A particular consideration relates to the extent to which groundwater storage can be allocated. In WAP areas, only a relatively small proportion of groundwater storage is typically made available for consumptive purposes. In areas outside of WAPs within the arid zone, however, the Northern Territory Water Allocation Planning Framework provides for up to 80% of non-renewable groundwater storage in the arid zone to be allocated. In practice, this provision appears intended to enable access to groundwater storage for urban water supplies where limited alternative water sources are available, and not as a default level of allocation for consumptive purposes (such as agriculture). Consideration should be given to amending the Framework to reflect the limited circumstances under which non-renewable groundwater resources may be allocated.</p>
<p><b>5. Fit for purpose water access entitlement and trading systems</b></p>	<p>Whilst development levels remain relatively low, reforms to the NT water licensing regime and current water extraction licences into more fully defined and protected water access entitlements, supported with sophisticated registries to support dynamic trading, will have a lower priority in comparison to resourcing other aspects of water management. With increased development, however, the need for more fully developed water access entitlement systems and greater capacity for trading will become more important.</p> <p>In the NT, it appears appropriate for the focus to continue to be on implementing the basic integrity issues including ensuring water extraction licences are well specified, as well as undertaking monitoring and reporting to assure all stakeholders that the water being taken is in accordance with their water extraction licences. In the immediate future, the focus in the NT is likely to be to ensure that basic information about water extraction licences and associated water use is clear, reliable, transparent and publicly accessible.</p> <p>There should also be continued focus on the success of the current approach of reviewing and removing unused water extraction licences as this will become more difficult (and urgent) as water resources become more fully allocated.</p>
<p><b>6. Aligning science with desired WAP outcomes in each plan area</b></p>	<p>The technical and scientific assessments that are undertaken to support water planning should be closely aligned with, and support, the priority issues and high-level outcomes sought for each plan area, as determined by early discussions between planners and stakeholders. This may assist in reducing the risk of expending time and resources on assessments that are not essential to planning outcomes, while ensuring assessments address the key matters of interest to stakeholders.</p> <p>The identification of targeted science that is required (as well as the outputs that are needed to support the policies and decisions contemplated for the specific context) will depend on the early engagement in water planning processes of all those stakeholders that have a genuine stake in the planning outcomes as well as knowledge that will input to and support the assessment processes.</p> <p>In addition, the involvement of researchers throughout the water planning engagement process will enable them to focus research on matters that are relevant to stakeholders, and to present information in a way that supports stakeholder understanding of different planning proposals and, ultimately, builds public confidence in planning decisions and their implementation.</p>



<p><b>7. Implications of using groundwater storage</b></p>	<p>In the NT, a specific challenge results from using significant volumes from groundwater storage to meet urban water supply needs in systems that have low recharge especially in arid areas where water availability is very limited. Although the possible need for such arrangements is contemplated under the NWI it is important for the NT to continue to focus its science on the potential impact on groundwater dependent ecosystems and the long-term options for alternative supply.</p> <p>‘Contingent Allocation Rules’ provide for the allocation of a high proportion of groundwater storage within the arid zone as a means of meeting essential urban needs in remote locations where alternative water supply options are limited. Special provisions that allow essential urban water needs to be met from local water resources are not uncommon in water resource management across Australia.</p> <p>It will be important to properly assess and clearly articulate the potential implications (opportunities and risks) of such allocation decisions, as well as acknowledging when decisions of this nature are being made. It will also be important to undertake ongoing monitoring to progressively review and evaluate the medium to long-term outcomes of such decisions, and to adjust the terms and conditions of water extraction licences as and if necessary.</p>
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## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>1 BACKGROUND .....</b>	<b>7</b>
1.1 INTRODUCTION .....	7
1.2 SCOPE .....	7
1.3 OUT OF SCOPE .....	7
1.4 PURPOSE OF THIS REPORT .....	7
<b>2 APPROACH .....</b>	<b>8</b>
2.1 METHODOLOGY .....	8
2.2 LIMITATIONS .....	8
<b>3 THE NORTHERN TERRITORY WATER PLANNING CONTEXT .....</b>	<b>8</b>
<b>4 ASSESSMENT OF NT'S WATER PLANNING PROCESSES AGAINST THE NWI .....</b>	<b>9</b>
4.1 BACKGROUND TO THE NWI .....	9
4.2 ASSESSMENT AGAINST ELEMENTS OF THE NWI AGREEMENT .....	10
4.3 ASSESSMENT AGAINST 2010 POLICY GUIDELINES FOR WATER MANAGEMENT AND PLANNING .....	10
4.4 ASSESSMENT AGAINST 2017 GUIDELINE MODULES .....	10
<b>5 KEY THEMES IN THE 2020 PC INQUIRY RELEVANT TO NT WATER PLANNING .....</b>	<b>11</b>
5.1 INTRODUCTION .....	11
5.2 ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE'S INTEREST IN WATER ('SP D') .....	11
5.3 COMMUNITY ENGAGEMENT (SP J) .....	12
5.4 ENVIRONMENTAL MANAGEMENT (SP C) .....	13
5.5 WATER ENTITLEMENTS AND PLANNING (SP A) .....	13
5.6 WATER TRADING AND MARKETS (SP B) .....	14
5.7 ENSURING THE INTEGRITY OF WATER RESOURCE MANAGEMENT (SP E) .....	14
5.8 KNOWLEDGE BUILDING (SP K) .....	14
5.9 OTHER SP PAPERS .....	15
<b>6 SUMMARY OF FINDINGS .....</b>	<b>15</b>
6.1 ASSESSMENT CONCLUSION AND OBSERVATIONS .....	15
6.2 FOCUS AREAS FOR FUTURE IMPROVEMENT .....	15
6.2.1 <i>Early and ongoing stakeholder engagement</i> .....	16
6.2.2 <i>Water interests of Aboriginal and Torres Strait Islander people</i> .....	16
6.2.3 <i>Adequate time for water planning</i> .....	16
6.2.4 <i>Precautionary decision making outside water allocation plan areas</i> .....	16
6.2.5 <i>Fit for purpose water entitlement and trading systems</i> .....	17
6.2.6 <i>Aligning science with desired WAP outcomes in each plan area</i> .....	17
6.2.7 <i>Implications of using groundwater storage</i> .....	17
<b>APPENDIX A – ASSESSMENT OF NWI ELEMENTS THAT RELATE TO WATER PLANNING .....</b>	<b>19</b>
<b>APPENDIX B – PRODUCTIVITY COMMISSION INQUIRY IN NATIONAL WATER REFORM 2020 .....</b>	<b>42</b>

## Tables

Table 1 – Focus areas for future continuous improvement of NT's implementation of the NWI's water planning aspects .....	3
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# 1 Background

## 1.1 Introduction

Badu Advisory has been engaged by the Northern Territory (NT) Department of Environment, Parks and Water Security (DEPWS) to undertake a review of NT's implementation of the National Water Initiative (NWI) in relation to water planning to support its continuous improvement.

## 1.2 Scope

The NWI covers a wide range of matters relating to the management of water allocation and planning along with matters related to water supply and management. Although this review was primarily focussed on the water planning aspects, it also provides comment on a number of related matters, such as water access entitlements (in the form of water extraction licences in the NT) and water trading, to the extent that they relate to water planning. For the purposes of this report the term 'water planning' therefore includes those related matters. Other matters covered by the NWI, such as water pricing and urban water reform, were beyond the scope of this review.

The NT is only one of the jurisdictions subject to the NWI. Jurisdictions have different challenges in water planning depending on individual circumstances. The NWI documents were therefore reviewed in the context of their relevance to the particular circumstances that exist in the NT.

In 2020, the Productivity Commission (PC) completed an inquiry into national water reform in Australia<sup>1</sup>. The findings, which proposed directions for further water reforms to water allocation and planning, were considered in this review to the extent that they relate to the NT.

A number of potential focus areas for improving the NT water planning processes are identified in this report. These have been developed having regard to NT's unique water planning context, the original intent and provisions within the NWI, subsequent guideline material, as well as the PC's suggested future directions for water reform.

The commentary within the report are intended to provide a basis for the DEPWS to consider improvements to NT's water planning processes, to ensure it is 'fit-for-purpose' taking into account the NT context. The report is also designed as a potential input to NT's future deliberations when considering changes that might be made when replacing the NT *Water Act 1992*, as contemplated under the draft Territory Water Plan<sup>2</sup>.

## 1.3 Out of scope

The following were beyond the scope of this review:

- Consideration of non-water planning related elements of the NWI (e.g. water pricing and urban water reform)
- Commenting on the merits or otherwise of principles, strategies, rules etc. contained within, or the outcomes associated with, the specific provisions contained within WAPs, policies or guidelines and
- Undertaking consultations beyond the NT DEPWS water planning team except when specifically suggested by DEPWS.

## 1.4 Purpose of this report

This report presents the commentary and findings of the review.

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<sup>1</sup> National Water Reform 2020: Productivity Commission Inquiry Report No 96:  
<https://www.pc.gov.au/inquiries/completed/waterreform-2020/report/water-reform-2020.pdf>

<sup>2</sup> [Draft Territory Water Plan](#), Northern Territory Department of Environment, Parks and Water Security.



## 2 Approach

### 2.1 Methodology

The review was undertaken as follows:

1. Convening an inception meeting between Badu Advisory and DEPWS water planning officers to confirm scope and identify documents.
2. Collating and reviewing documents relevant to the NT Government's implementation of the NWI in relation to water planning, where documents were:
  - provided by DEPWS
  - located through review of the DEPWS website and/or references in recent WAPs
  - identified through review of the NWI page of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) website and
  - identified from other public websites and sources.
3. Preparing a report that:
  - identifies the elements of the NWI relevant to water allocation and planning
  - determines which of those elements are potentially relevant to the current NT legislation and policy with an evaluation of why they are or are not applicable to the NT
  - assesses the NT's water planning processes against those elements
  - proposes improvements to the NT water planning processes.

In addition, the review met with the ex-Commissioner of the PC to test understanding and interpretation of the findings and recommendations of the PC's inquiry into national water reform in Australia and their application to the NT's context.

### 2.2 Limitations

This review was a desktop exercise aimed at supporting a high-level assessment of the alignment between NT's current water planning arrangements and the provisions of NWI, for consideration by DEPWS.

It does not purport to be a detailed critique of individual WAPs, policies and procedures.

## 3 The Northern Territory water planning context

The NT is just one of the jurisdictions implementing water reform in Australia and each has an individual context within which water planning is carried out. The NT context is summarised as follows:

- The NT is a large area with a small population. The NT is more than twice the size of NSW with a population outside Darwin that is some 5% of the population of NSW outside Sydney.
- The NT has a relatively low population with a relatively high proportion of Aboriginal residents.
- The NT is at an early stage of development and therefore water resources are not overallocated with the exception of some very small urban areas where there is overuse and legacy water entitlements pose a risk of overallocation.

- The total number of water extraction licences is small. As at March 2023 there were just 595 granted water extraction licences in the NT<sup>3</sup>. Water trade has been enabled and does occur but given the level of development, trade is not a major driver and the need for systems to support trade are not as significant as in other jurisdictions.
- The type and mix of land tenure types in the NT is unique (viz. NT freehold, Aboriginal freehold and pastoral leasehold). Most land in the NT, outside of townships, is either Aboriginal freehold or pastoral leasehold land over which native title rights can exist<sup>4</sup> with more than fifty percent of the land owned by Aboriginal people.
- There is significant interest in mining and agricultural development opportunities in the NT because of perceived land and water availability.
- The current climate is characterised by highly seasonal variations, and this is expected to continue. Because of the highly seasonal climatic conditions and spatial variability across the NT, there are additional challenges to accessing surface water flows.
- The NT is highly reliant (either year round or during specific periods) on groundwater which in central Australian arid areas may only be recharged infrequently with years to decades between replenishment events<sup>5</sup>.
- Water resources in the NT are largely unregulated and come from natural groundwater systems and/or wild rivers.

## **4 Assessment of NT's water planning processes against the NWI**

### **4.1 Background to the NWI**

Throughout the 1990s there was a growing awareness that reform was needed in the management of water resources in the more heavily developed water resources of Australia. They were triggered by events such as algal blooms in the Murray Darling Basin river systems and the harvesting of overland flow before it reached regulatory control in watercourses.

The increased awareness and triggering events are summarised as follows:

- Some water resources, such as the Murray Darling Basin, were fully allocated in that further allocation would impact unacceptably on the environment as well as existing water users.
- Water allocation decisions needed to be made at a catchment and sub-catchment scale.
- Water resource allocation and planning was seen as a distinct discipline with increasing recognition that institutional arrangements needed to separate water allocation planning from infrastructure development and management.
- Decisions about the allocation of water resources involved a trade-off between the social and economic needs of water users (the 'consumptive pool') and the water needs of the environment.
- As water resources became fully developed prospective new water users needed to obtain water through trade<sup>6</sup> from existing water users.

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<sup>3</sup> Northern Territory Water Licence Portal <https://ntg.maps.arcgis.com/apps/dashboards/0ec71b3d7e774e64b434034211708514>

<sup>4</sup> Northern Territory Government website relating to land tenure and availability: <https://nt.gov.au/industry/mining-and-energy/land-tenure-and-availability>

<sup>5</sup> The 2010 Water Planning Guidelines (section 3.6.4) recognise the potential need for such arrangements, as does the National Groundwater Strategic Management Framework which is part of the NWI framework.

<sup>6</sup> Trade includes 'temporary' trade being the trade of water, and 'permanent' trade being the trade of the water entitlement itself.

- For trade in these fully developed systems to be secure, water access entitlements needed to have the attributes of property rights, in particular to be tradable, be assets separate from land, be clearly specified, and be permanent or ongoing with clear pathways (i.e. water planning processes) by which any rules around any attenuation of the water rights<sup>7</sup> would be established or changed.

## 4.2 Assessment against elements of the NWI Agreement

Reforms commenced in the Murray Darling Basin and began to be applied more broadly in response to the Council of Australian Government's water reform agenda adopted in 1994. That agenda culminated in the NWI Agreement in 2004<sup>8</sup>.

The elements of the NWI are set out in the table in Appendix A, together with commentary regarding the relevance of each clause to water planning in the NT and an assessment of NT's water planning processes against those elements.

## 4.3 Assessment against 2010 Policy Guidelines for Water Management and Planning

In 2010 the 'NWI Policy Guidelines for Water Planning and Management'<sup>9</sup> were released. These were influenced by experience of the Millennium Drought. Those experiences resulted in a focus on dealing with situations of critical water shortage and preparing for the impacts of climate change on water resource availability. There was also an increased focus on the consideration of indigenous values.

The components of the 2010 guidelines are set out in the table in Appendix A, together with commentary on the relevance of each to water planning in the NT and an assessment of NT's water planning processes against those components.

## 4.4 Assessment against 2017 Guideline Modules

Further guideline material was produced around 2017 that, within the NWI framework, are referred to as 'guidance modules'. The modules and commentary on the relevance of their content to the NT are set out in the table in Appendix A. An assessment of NT's water planning processes against the modules' content is also summarised in Appendix A.

The modules are as follows:

- 'Considering Climate Change and Extreme Events'<sup>10</sup> – a framework for considering the range of impacts that could result from climate change
- 'Risk assessment'<sup>11</sup> – a framework for assessing risk given the many uncertainties that exist in the water planning arena, and
- 'Engaging Indigenous Peoples in Water Planning and Management'<sup>12</sup> – proposes reservation of water for indigenous economic use.

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<sup>7</sup> Such as times or circumstances of restricted taking of water under a water entitlement

<sup>8</sup> Intergovernmental Agreement on NWI, 2004:  
<https://www.dccew.gov.au/sites/default/files/sitecollectiondocuments/water/Intergovernmental-Agreement-on-a-nationalwater-initiative.pdf>

<sup>9</sup> NWI Policy Guidelines for Water Planning and Management: 2010

<sup>10</sup> Considering climate change and extreme events in water planning and management (2017) - an NWI Guideline:  
<https://www.dccew.gov.au/sites/default/files/sitecollectiondocuments/water/climate-change.pdf>

<sup>11</sup> NWI Policy Guidelines for Water Planning and Management – Risk Assessment Module  
<https://www.dccew.gov.au/sites/default/files/sitecollectiondocuments/water/risk-module.pdf>

<sup>12</sup> Engaging Indigenous peoples in water planning and management: 2017  
<https://www.dccew.gov.au/sites/default/files/sitecollectiondocuments/water/indigenous-engagement.pdf>

## 5 Key themes in the 2020 PC Inquiry relevant to NT water planning

### 5.1 Introduction

The most recent assessment of the implementation of the NWI is the Productivity Commission Report of 2020<sup>13</sup> (the 2020 PC Inquiry). The PC also published 'Supporting Paper A'<sup>14</sup> that further explains the main report. Supporting Paper A contains 11 component papers (papers 'SP A' to 'SP K')<sup>15</sup>.

The 2020 PC Inquiry resulted from a request by the Australian Government to carry out its second triennial assessment of the jurisdictions' progress toward achieving the objectives and outcomes of the NWI, and to provide practical advice on future national water reform directions.

The 2020 PC Inquiry arguably has evolved from earlier assessments which tended to report jurisdictional implementation against the standards that are needed (and are affordable) in heavily allocated systems such as within the Murray Darling Basin. Instead, the focus of the 2020 PC Inquiry was on 'fit-for-purpose' regulatory regimes. For example, although the existence of basic rather than fully developed water access entitlement systems<sup>15</sup> are contemplated in the NWI (cl 33 as discussed in Appendix A), such arrangements have perhaps previously been perceived as an incomplete implementation of the NWI. However, by focussing on a 'fit-for-purpose' approach the 2020 PC Inquiry provides a more risk-based basis for aligning resource management approaches, priorities and resources with the needs of individual jurisdictions and contexts.

Appendix B presents the components of the 2020 PC Inquiry considered relevant to our assessment of NT's water planning processes.

Key themes raised in the PC SP papers that are relevant to our assessment of NT's water planning processes are discussed below.

### 5.2 Aboriginal and Torres Strait Islander People's interest in water ('SP D')

A key focus of the 2020 PC Inquiry was in relation to the recognition of Aboriginal and Torres Strait Islander peoples' interest in water. Although indigenous interests were not explicitly identified either in the objectives of the NWI (cl 23) or the key elements of outcomes sought (cl 24), the NWI did require that the outcomes of water planning should 'recognise indigenous needs' (cl 25). The NWI further included references as follows:

- Recognise 'indigenous and cultural values' as part of 'other public benefit outcomes (cl 45).
- 'Include indigenous representation in water planning wherever possible' (cl 52)
- 'water plans to incorporate indigenous social spiritual and customary objectives' (cl 52)
- Water plans to include descriptions of 'indigenous water use' (Schedule E)

The 2020 PC Inquiry notes that progress has been slow across jurisdictions in advancing those requirements. It sets out reform directions in the paper SP D<sup>16</sup> which notes that 'Since 1994 Aboriginal and Torres Strait Islander people have articulated their aspirations for access for unconstrained use (that is, for both cultural and economic purposes)' (p4). In that regard it notes that 'governments need to work with Traditional Owners to determine their best and preferred pathway for ongoing economic development

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<sup>13</sup> National Water Reform 2020: Productivity Commission Inquiry Report No 96:  
<https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020.pdf>

<sup>14</sup> National Water Reform 2020: Productivity Commission Inquiry Report No 96 – Supporting Paper A:  
<https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportinga.pdf> <sup>15</sup>

Note that a page reference in this section is a reference to the page number in the relevant 'SP' paper.

<sup>15</sup> NWI clauses 28-32 i.e. property rights separate from land, mortgageable, perpetual etc

<sup>16</sup> Securing Aboriginal and Torres Strait Islander people's Interests in water: PC 2020 Inquiry supporting paper  
<https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingd.pdf>

(p4). It also notes that where resources are not fully allocated reserves be created for indigenous economic use and notes provision of such reserves have been established in the NT under the NT's *Strategic Aboriginal Water Reserve Policy*<sup>17</sup>.

The NWI currently has eight 'key elements' of outcomes sought under the NWI (cl 24). The 2020 PC Inquiry affirms the continued appropriateness of eight key elements but proposes that increasing the influence Traditional Owners should be elevated to become one of the key elements of outcomes sought under the NWI<sup>18</sup>.

With a high indigenous population in large landscape involving multiple groups, the challenges for NT planning are significant. Comments below in relation to community engagement are also related to this proposed direction of reform.

### 5.3 Community Engagement (SP J)

Paper SP J<sup>19</sup> emphasises the need for 'continuously improving and sustaining Government engagement', 'ensuring resourcing is fit-for-purpose', 'clarity about the purpose of engagement', and ensuring 'stakeholders have opportunity for meaningful input' (p4).

In relation to the NT, the PC included in SP J (p9) the following comments from the Northern Land Council (NLC) submission:

- 'In the NT over recent years we have seen a continued erosion of the ability for community and stakeholders to be involved in water management decisions'
- 'Community engagement arrangements associated with water planning, licensing and management in the NT need to be significantly improved'
- 'Based on the information available through WAC minutes, in 2017 there were a total of 80 people appointed to water advisory committees. As at March 2021 there are 12'
- 'As there are no other formal mechanisms for the NT government to involve community and stakeholders in water planning, the substantial diminishing of water advisory committees since 2017 is of concern to the NLC'.

Apart from issues of representation and opportunity for engagement a further challenge of the NT is likely to be inequality in bargaining power. Section 3.1 of the NWI Policy Guidelines for Water Planning and Management (see Appendix A) notes the need to reduce inequalities in bargaining power during engagement processes. Given the interest of large agribusiness and mining entities in development opportunities in the NT there is potential for power imbalances to exist.

With a high indigenous population in a broad physical landscape involving multiple groups, the challenges for NT planning are significant. However, the need to prioritise engagement is particularly important in light of the PC proposals in relation to elevating within the NWI the matter of advancing Aboriginal and Torres Strait Islander people's interests in water discussed in section 5.2.

An implication of providing for effective community engagement in the NT is the impact on timing. Effective community engagement takes time. The 2010 NWI Guideline for Water Planning and Management notes in Section 3.2 that 'as a rule of thumb at least 12 months should be allowed for engagement' (see Appendix A). Experience in the NT suggests that effective community engagement is likely to take significantly more time than this given its unique planning context.

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<sup>17</sup> Strategic Aboriginal Water Reserve Policy Framework: 2017:

[https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/457553/SWRC-Policy-Framework\\_A4\\_V1.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/457553/SWRC-Policy-Framework_A4_V1.pdf)

<sup>18</sup> National Water Reform 2020: Productivity Commission Inquiry Report No 96: Main report: p8

<sup>19</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingj.pdf>

## 5.4 Environmental Management (SP C)

Effective provision of water for the environment is one of the objectives of the NWI that the PC propose should be enhanced. The focus for the SP C paper<sup>20</sup> is on the impact of drought and critical shortages of water in highly stressed systems such as the Murray Darling Basin, and particularly on the difficulties for managing water entitlements held and managed for environmental purposes.

The NT does not hold water access entitlements to actively manage for the environment. Provision for the environment is rules based which is appropriate and consistent with the basic approach in other jurisdictions.

The aspects of the paper particularly relevant to the NT is the need to 'clearly identify environmental objectives and outcomes' (p 4). A greater focus on the identification within WAPs of measurable environmental objectives and progressive assessment of the attainment of those objectives should therefore be incorporated in the future.

The paper also notes that only 20 percent of water resources in the NT is subject to a WAP (p9) which is the lowest proportion of any jurisdictions. However, under the NWI it is for the NT to decide whether a WAP is to be prepared (cl 38) having regard to the local issues. The key local context driving the WAP coverage is the low population over a large area with limited development pressure. It is also relevant that the grant of a water extraction licence in the areas of the NT not subject to a WAP is subject to the NT policy documents that include:

- *The NT Water Allocation Planning Framework*<sup>21</sup> which sets 'contingent allocation rules' to apply in the absence allocation rules established through water planning processes.
- The NT '*Processing Water Extraction Licence Applications Policy*<sup>22</sup> which requires the Controller of Water Resources ('the controller') to consider applications in accordance with water planning principles.
- A Territory Water Plan (currently in draft<sup>23</sup>) that will identify that water planning principles are to be applied across the NT as a component part of integrated water management across all aspects of water management in the NT.

Environmental management within or outside the formal water planning process will be a challenge in the NT because of the more limited resources of a smaller jurisdiction, the distances involved and the need to identify groundwater dependent ecosystems and their susceptibility to lowered water levels, which is a developing science.

## 5.5 Water Entitlements and Planning (SP A)

Water Entitlements and Planning is one of the objectives of the NWI that the PC proposes be enhanced.

Paper SP A<sup>24</sup> proposes that best practice principles be adopted in the NWI. Water planning to be 'be fit-forpurpose; recognise the needs of Aboriginal and Torres Strait Islander people, clearly specify environmental objectives and outcomes, be based on a trade-off of environmental social and economic outcomes, involve appropriate engagement and be independently reviewed' (p4).

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<sup>20</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingc.pdf>

<sup>21</sup> NT Water Allocation Planning Framework: 2020: [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/476669/nt-waterallocation-planning-framework.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/476669/nt-waterallocation-planning-framework.pdf)

<sup>22</sup> NT Processing Water Extraction Licence Applications Policy:2020: [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0007/901618/processing-wel-applications-01072020.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0007/901618/processing-wel-applications-01072020.pdf)

<sup>23</sup> [Draft Territory Water Plan](#), Northern Territory Department of Environment, Parks and Water Security,

<sup>24</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportinga.pdf>

The paper notes the following:

- All jurisdictions other than WA and NT 'have statutory based entitlements consistent with the NWI' (p8).
- However, it also notes that 'entitlements and access rights can differ across and within jurisdictions reflecting the differences in the level of development and complexity of water systems and varying levels of associated risk' (p11).
- In relation to water planning being fit-for-purpose it notes that 'in relatively undeveloped systems there is less pressure on the resource and simplified planning may be adopted' (p26)
- It notes that the NT provides an example of how mineral and petroleum industries have been fully integrated into the entitlement network (p13). That integration resulted from the NT's *Scientific Inquiry into Hydraulic Fracturing in the NT*<sup>25</sup> and the NT's resulting *Strategic Regional and Baseline Assessment (SEBRA)* framework<sup>26</sup>.

In the NT, where water resource development is at an early stage and only a small number of water extraction licences exist, the need to implement a more sophisticated water access entitlement regime to support water planning and management outcomes is significantly less than in other jurisdictions.

## 5.6 Water trading and markets (SP B)

The focus of paper SP B<sup>27</sup> is primarily on the robustness of the intensive water markets in the Murray Darling Basin.

While markets are not a significant issue in the NT as noted in earlier discussion about the context for water planning in the NT, the paper notes:

- 'The NT has made significant changes to its water entitlement and planning systems which led to the first water trades in 2019' (p8)
- 'The NT has made progress in improving registers' (p28).

While the NT could be expected to continue to strengthen registers as opportunity present, and reduce blockages to trade should they emerge, these matters will be less a driver than other aspects of water planning identified in other SP papers.

## 5.7 Ensuring the integrity of water resource management (SP E)

Paper SP E<sup>28</sup> focusses on water accounting issues arising in the heavily allocated systems affected by water shortages during the Millennium Drought. In that situation, and with climate change likely to cause more such events, the need for compliance with fully developed water access entitlement systems and for transparency in respect of compliance monitoring were paramount.

In the NT, even though the critical situations in other jurisdictions does not exist, water metering to show compliance with adequately specified water extraction licences and transparency about entitlement and use is an ongoing priority.

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<sup>25</sup> Scientific inquiry into Hydraulic Fracturing in the NT: 2018 <https://frackinginquiry.nt.gov.au/>

<sup>26</sup> NT Strategic Regional and Baseline Assessment Framework:2020 <https://hydraulicfracturing.nt.gov.au/sreba>

<sup>27</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingb.pdf>

<sup>28</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportinge.pdf>

## 5.8 Knowledge building (SP K)

Paper SP K<sup>29</sup> notes that knowledge generation has been integral to achievements under the NWI to date and that governments have a role in funding knowledge generation that is in the public interest. However good information is not enough to realise evidence-based water planning. Success requires 'sound relationships between knowledge generators and users'(p4).

For the NT, the previously mentioned challenges that it faces in the area of community engagement have implications for knowledge building. Developing knowledge as part of that engagement needs to understand the trade-off considerations that are being addressed in the water planning arena and present information in ways that support risk-based assessments.

## 5.9 Other SP papers

Other SP Papers relate to urban services in the urban and rural communities and other matters beyond the scope of this report.

# 6 Summary of findings

## 6.1 Assessment conclusion and observations

Based on the above assessments, we concluded that NT's water planning processes are consistent with the provisions of the NWI and subsequent guideline documents.

In summary we observed that:

- A. The type of specification of existing water extraction licences in the NT is currently appropriate for the context
- B. Statutory water allocation plans (WAPs) are progressively being developed for areas where there is emerging demand and where there is the most competition for the use of groundwater. Outside those areas, NT-wide policies and procedures are being used to guide decision making.
- C. Trading of water extraction licences is available in areas covered by WAPs
- D. The water planning processes are founded on seeking to balance social, economic and environmental values
- E. Research and scientific assessments are carried out to develop knowledge to support water planning processes
- F. Community engagement is carried out as a part of the water planning processes
- G. Aboriginal Water Reserves are established under WAPs.

## 6.2 Focus areas for future improvement

Water planning is a continuous process and should always be subject to review to identify potential ways to better meet existing and the emerging needs. This is acknowledged by the NT government, which is seeking to improve and update its water management framework as evidenced by the priority actions identified in the Draft Territory Water Plan released in 2022. For example, the draft plan proposes that:

By 2026, the NT Government will develop new legislation to replace the Water Act 1992 (NT) and provide a regulatory regime that supports sustainable development through contemporary water resource management.

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<sup>29</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingk.pdf>



The Draft Territory Water Plan further states that:

The Water Act 1992 (NT) has provided a sound legislative basis for the investigation, allocation, use, control, protection, management and administration of water resources. However, it does not provide all the necessary mechanisms for best practice water resource management in the current context of climate change, growing competition for water and community expectations around governance and accountability.

The 2020 PC Inquiry provided our review with an additional lens through which to identify potential improvements to NT's implementation of the NWI's water planning related aspects.

Seven focus areas that are considered likely to drive the future continuous improvement of the way that NT implements the NWI's water planning related aspects are discussed below.

### 6.2.1 Early and ongoing stakeholder engagement

The NT faces particular challenges with respect to engagement with remote communities given the NT's unique planning context.

Fit-for-purpose stakeholder engagement hinges on early, ongoing and meaningful engagement. Successful engagement should involve seeking ways to address any differences in bargaining power between stakeholder groups.

DEPWS's experiences in stakeholder engagement (both its successes and shortcomings) gained from its recent and ongoing water planning processes could be used to identify and inform a continuous improvement and adaptive management approach to future stakeholder engagement processes.

### 6.2.2 Water interests of Aboriginal and Torres Strait Islander people

Any renewal of the NWI is likely to incorporate an increased focus on the water interests of Aboriginal and Torres Strait Islander peoples. As flagged in the 2020 PC Inquiry, all governments are working with Traditional Owners to determine their best and preferred pathway for ongoing economic development and for increasing First Nations peoples' influence in shaping water management and planning outcomes that affect them.

With a high indigenous population involving multiple groups spread across a large area, the challenges for NT planning are significant. However, this presents an important opportunity for the NT to be national leaders in collaboratively developing and implementing approaches for other jurisdictions to consider and follow.

### 6.2.3 Adequate time for water planning

Fit-for-purpose, meaningful stakeholder engagement takes time. Because of the challenges facing stakeholder engagement in the NT, sufficient time must be allowed at the outset when designing NT's water planning processes and timeframes to enable effective stakeholder engagement and, ultimately, acceptance and ownership of planning outcomes.

Water planning can only be successful – and the opportunity for locals to understand and accept its outcomes – if stakeholders remain meaningfully engaged from an early point in the planning process all the way through to the implementation phase. It is critical that planning timetables allow sufficient time for this to occur, including flexibility for additional time, if necessary, to ensure that stakeholders have adequate time to explore alternative planning scenarios, discuss the issues and understand the rationale for ultimately advancing planning proposals. This will also help to reposition stakeholders as partners working with DEPWS when implementing water planning outcomes.

### 6.2.4 Precautionary decision making outside water allocation plan areas

Fit-for-purpose water planning means taking into account the extent to which systems are allocated. In fully allocated systems, this is likely to involve allocating water resources under a WAP. However, the NWI contemplates that there may be circumstances where a jurisdiction chooses to not have a water plan for a resource and where simple policy positions or rules may suffice for making decisions about access to water.

In the NT, preparation of WAPs is a challenge because of its size and the challenges in engaging stakeholders, the nature of its water resources, its land tenure arrangements as well as the current limited demand for water in many areas. The NT has appropriately focused WAP development on resources where the emerging demand for water is high whilst in other areas, it has sought to apply water planning principles and policy-based systems of rules when dealing with licence applications.

The risk with this approach is that decisions may be criticised as not recognising the interests of all stakeholders and not being made with adequate science. Unless backed by robust science and ongoing monitoring, such criticisms are likely to become stronger as systems become (or are perceived as becoming) more fully allocated.

A particular consideration relates to the extent to which groundwater storage can be allocated. In WAP areas, only a relatively small proportion of groundwater storage is typically made available for consumptive purposes. In areas outside of WAPs within the arid zone, however, the Northern Territory Water Allocation Planning Framework provides for up to 80% of non-renewable groundwater storage in the arid zone to be allocated stating that "... total extraction over a period of at least 100 years will not exceed 80% of the total aquifer storage at start of extraction"<sup>30</sup>. In practice, this provision appears intended to enable access to groundwater storage for urban water supplies where limited alternative water sources are available, and not as a default level of allocation for consumptive purposes (such as agriculture). Consideration should be given to amending the Framework to reflect the limited circumstances under which non-renewable groundwater resources may be allocated.

#### 6.2.5 Fit for purpose water entitlement and trading systems

Whilst development levels remain relatively low, reforms to the NT water licensing regime and current water extraction licences into more fully defined and protected water access entitlements, supported with sophisticated registries to support dynamic trading, will have a lower priority in comparison to resourcing other aspects of water management. With increased development, however, the need for more fully developed water access entitlement systems and greater capacity for trading will become more important.

In the NT, it appears appropriate for the focus to continue to be on implementing the basic integrity issues including ensuring water extraction licences are well specified, as well as undertaking monitoring and reporting to assure all stakeholders that the water being taken is in accordance with their water extraction licences. In the immediate future, the focus in the NT is likely to be to ensure that basic information about water extraction licences and associated water use is clear, reliable, transparent and publicly accessible.

There should also be continued focus on the success of the current approach of reviewing and removing unused water extraction licences as this will become more difficult as water resources become more fully allocated.

#### 6.2.6 Aligning science with desired WAP outcomes in each plan area

The technical and scientific assessments that are undertaken to support water planning should be closely aligned with, and support, the priority issues and high-level outcomes sought for each plan area, as determined by early discussions between planners and stakeholders. This may assist in reducing the risk of expending time and resources on assessments that are not essential to planning outcomes, while ensuring assessments address the key matters of interest to stakeholders.

The identification of targeted science that is required (as well as the outputs that are needed to support the policies and decisions contemplated for the specific context) will depend on the early engagement in water planning processes of all those stakeholders that have a genuine stake in the planning outcomes as well as knowledge that will input to and support the assessment processes.

In addition, the involvement of researchers throughout the water planning engagement process will enable them to focus research on matters that are relevant to stakeholders, and to present information in a way

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<sup>30</sup> DENR (2020) Northern Territory Water Allocation Planning Framework. Available online: <[https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/476669/nt-water-allocation-planning-framework.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/476669/nt-water-allocation-planning-framework.pdf)>.

that supports stakeholder understanding of different planning proposals and, ultimately, builds public confidence in planning decisions and their implementation.

#### 6.2.7 Implications of using groundwater storage.

In the NT, a specific challenge results from using groundwater storage to meet urban water supply needs in systems that have low recharge especially in arid areas where water availability is very limited (see Section 6.2.4). Although the possible need for such arrangements is contemplated under the NWI it is important for the NT to continue to focus its science on the potential impact on groundwater dependent ecosystems and the long-term options for alternative supply.

'Contingent Allocation Rules' provide for the allocation of a high proportion of groundwater storage within the arid zone as a means of meeting essential urban needs in remote locations where alternative water supply options are limited. Special provisions that allow essential urban water needs to be met from local water resources are not uncommon in water resource management across Australia. It will be important to properly assess and clearly articulate the potential implications (opportunities and risks) of such allocation decisions, as well as acknowledging when decisions of this nature are being made. It will also be important to undertake ongoing monitoring to progressively review and evaluate the medium to long-term outcomes of such decisions, and to adjust the terms and conditions of water extraction licences as and if necessary.

## Appendix A – Assessment of NWI elements that relate to water planning

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
<b>NWI – Objectives</b>				
	cl23			
1.	<ul style="list-style-type: none"> <li>‘clear nationally-compatible characteristics for secure <i>water access entitlements</i>’;</li> </ul>	Partially relevant	There is relevance in essential characteristics, but given the effective absence of a need for cross border trading the need to national compatibility is less relevant.	A
2.	<ul style="list-style-type: none"> <li>‘transparent, statutory based water planning’;</li> </ul>	Relevant	The <i>Water Act NT 1992</i> (s22B) provides for the preparation of Water Allocation Plans.	B
3.	<ul style="list-style-type: none"> <li>‘statutory provisions for <i>environmental and other public benefit outcomes</i> and improved environmental management practices’;</li> </ul>	Relevant	The <i>Water Act NT 1992</i> (s22B(5)) provides that water is allocated within the estimated sustainable yield. The WAP program is being rolled out progressively. Much of the NT area has a low population and low development pressures.	D
4.	<ul style="list-style-type: none"> <li>‘complete return of all currently overallocated or overused water systems to <i>environmentally sustainable levels of extraction</i>’;</li> </ul>	Partially relevant	<p>Overall, the NT is at an early stage of development. In the NT, the allocation of a high proportion of groundwater storage within the arid zone is provided for as a means of meeting essential urban needs in remote locations where alternative water supply options are limited. Special provisions that allow essential urban water needs to be met from local water resources are not uncommon in water resource management across Australia.</p> <p>While overuse is not significant problem the NT has recognised that there are limited urban areas where overallocation under legacy entitlements is an issue and has developed a legislative and policy response.</p>	

5.	<ul style="list-style-type: none"> <li>‘progressive removal of barriers to trade in water and meeting other requirements to facilitate the</li> </ul>	Partially relevant	There is provision for trade under the NT’s ‘Trading Licensed Water Entitlements Policy’ <sup>31</sup> within WAP areas. However, the NT is in the early stage of development and there is little demand for trade. Such barriers as exist in	C
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Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
	broadening and deepening of the water market, with an open trading market to be in place’;		policy documents are consistent with the limited tenure of the water entitlement, and the limited demand.	
6.	<ul style="list-style-type: none"> <li>‘clarity around the assignment of risk arising from future change in the availability of water for the <i>consumptive pool</i>’</li> </ul>	Relevant	NT is at an early stage of development. Limited need at this stage to share water availability within a consumptive pool, but will become progressively more important.	B
7.	<ul style="list-style-type: none"> <li>‘water accounting which is able to meet the information needs of different water systems in respect to water planning, monitoring water trading environmental management and on-farm management’;</li> </ul>	Partially relevant	<p>Basic accounting of volumes taken under a water extraction licence is the first step in water accounting. Unless water use is limited by the nature of the authorised water use, such as drinking water for free ranging stock, water metering is appropriate.</p> <p>The <i>Water Act 1992</i> (s70) provides that a meter be required for the taking of groundwater. Although there is no similar provision in relation to surface water, there is requirement for a licence (s45) and licence conditions to require metering.</p>	
8.	<ul style="list-style-type: none"> <li>‘policy setting which facilitate water use efficiency in urban and rural areas’;</li> </ul>	Relevant, but beyond scope		

<sup>31</sup> Northern Territory: Trading Licensed Water Entitlements Policy, July 2020 [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0008/918449/trading-licensed-water-entitlements-policy.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0008/918449/trading-licensed-water-entitlements-policy.pdf)

9.	<ul style="list-style-type: none"> <li>‘addressing future adjustment issues that may impact on water users and communities’</li> </ul>	Relevant	Neither the <i>Water Act 1992</i> nor the WAPs that are in preparation currently mention climate change, nor the need to prepare for adjustment if the continued taking of groundwater under the Contingent Allocation Framework <sup>32</sup> becomes unviable. However, the amount of water that can be taken under a water licence can be adjusted on an annual basis (referred to as announced allocations) in response to climatic conditions and/or water flows	
10.	<ul style="list-style-type: none"> <li>‘recognition of the connectivity between surface and groundwater</li> </ul>	Relevant	The assessment and monitoring of the interaction of stream flow and groundwater is particularly relevant given the NT’s context.	

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
	resources and connected systems managed as a single resource’.		In the NT this is managed through coupled surface and groundwater models in major river catchments. Model predictions at the end of each dry season are used to determine annual announced allocations based on maintaining minimum flows.	
<b>NWI – Key Elements</b>				

<sup>32</sup> [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/476669/nt-water-allocation-planning-framework.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/476669/nt-water-allocation-planning-framework.pdf)

11.	cl 24 <ul style="list-style-type: none"> <li>Water Access Entitlements and planning framework</li> <li>Water markets and trading</li> <li>Water Resource Accounting</li> <li>Knowledge and capacity building</li> <li>Community partnerships</li> </ul>	Relevant	The <i>Water Act 1992</i> provides: <ul style="list-style-type: none"> <li>For the preparation of statutory water allocation Plans (s22B)</li> <li>Scope for the trading of water extraction licences in water allocation planning areas (s71A(2A)).</li> <li>That a meter be required for the taking of groundwater (s70) Although there is no similar provision in relation to surface water there is requirement for a licence (s45) and licence conditions to require metering.</li> </ul> Knowledge and capacity building and community partnerships are key challenges during water planning engagement in the NT because the remoteness.	B, C, F
12.	<ul style="list-style-type: none"> <li>Best Practice Water Pricing</li> <li>Integrated Management</li> <li>Urban Water Reform</li> </ul>	Not within scope		
<b>NWI – Water Access Entitlements and Planning Framework</b>				
13.	cl 25 Outcomes (in precis): <ul style="list-style-type: none"> <li>Entitlement support security and commercial certainty</li> <li>Statutory basis for environment and public benefit outcomes</li> <li>Transparent planning process</li> <li>Adaptive management</li> </ul>	Partially relevant	All outcomes are relevant to the NT. However, given the nature of the NT circumstances and resources, some are more relevant others. The differences are dealt with through comments on specific later sections on the NWI documents <p>In overview, outcomes more relevant to NT are as follows:</p> <ul style="list-style-type: none"> <li>Pathways to address overallocation – while overallocation is not yet a significant issue it is a future risk.</li> </ul>	A – G

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
	<ul style="list-style-type: none"> <li>• Pathways to address overallocated or overdrawn</li> <li>• Assign risk arising from changes to consumptive pool</li> <li>• Water entitlements compatible across jurisdictions</li> <li>• Reflect regional difference</li> <li>• Recognise indigenous needs</li> <li>• Identify systems of high conservation value</li> <li>• Protect systems from interception</li> </ul>		<ul style="list-style-type: none"> <li>- Recognise indigenous interests – The NT has a high proportion of Aboriginal residents.</li> </ul> <p>In overview, outcomes less relevant to the NT are as follows:</p> <ul style="list-style-type: none"> <li>- Water entitlements compatible across jurisdictions – there is little demand for trading.</li> <li>- Protection from interception – not an issue in the NT</li> </ul>	
14.	cl 26,27 Actions	No longer relevant	These clauses set the initial timetable for actions. Overtaken by subsequent reviews and timetables	
<b>NWI – Water Access Entitlements</b>				
15.	cl 28 – 32 Specifies the characteristics of water access entitlements that are separate from land and tradable	Partially relevant	<p>The attributes set out in Clause 28 to 32 are fully relevant for most water access entitlements in fully allocated systems where trading is the only means by which water can be obtained. However, even in those systems it is impractical for all entitlements to meet these specifications e.g. stock and domestic supplies (see clause 33).</p> <p>The NT is in an early stage of development. There is little demand for trading and the focus is on the rationalisation of current legacy water extraction licences to remove unused licences<sup>33</sup>. Premature conversion to entitlements that have the permanence and tradability of property rights could lead to windfall profits, impede new use of water, and establish a public cost to meet any emerging change in understanding of environmental requirements.</p>	A, B

<sup>33</sup> Northern Territory: Recovery of Unused Entitlements Policy NT 2020: [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0010/918442/recovery-unused-license-water-entitlements-policy.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0010/918442/recovery-unused-license-water-entitlements-policy.pdf)



16.	cl 33	Relevant	The clause recognises circumstances where less than fully developed water access entitlement systems may be appropriate. They include:	B
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Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
	Specifies circumstances where it may be necessary to issue entitlements within less than fully developed water access entitlement systems (see clause 28 -32)		<ul style="list-style-type: none"> <li>- Poorly understood resources</li> <li>- Less developed resources</li> <li>- Access is temporary as part of adjustment strategy</li> </ul> <p>Arguably all of these 3 circumstances apply to the specification of water extraction licences in the NT.</p> <p>The clause requires that the need for the lesser form of entitlement be kept under review. In that regard the NT Water Act 1992 limits the renewal period to 10 years unless a longer period is approved by the minister (s45, s60) and requires review of a WAP at least every 5 years (s22B). The NT has amended the <i>Water Act 1992</i> to remove legacy exemptions from licensing requirements (as discussed in relation to Clause 34) and has implemented policies to better align existing water extraction licences with water needs<sup>34</sup>. These measures are consistent with the requirements of Clause 28.</p>	
17.	cl 34 Mining and petroleum sector may require policies beyond the scope of the NWI	Relevant	The clause acknowledges that mining and petroleum may need authorisations that do not reflect all of the characteristics of fully developed water access entitlement systems. To better align with the principles of water reform, in 2018 the NT amended the <i>Water Act 1992</i> to remove exemptions from licencing that previously applied to mining and petroleum industries. <sup>35</sup>	B

<sup>34</sup> Recovery of Unused Water Entitlement Policy [https://depws.nt.gov.au/data/assets/pdf\\_file/0010/918442/recovery-unused-license-water-entitlements-policy.pdf](https://depws.nt.gov.au/data/assets/pdf_file/0010/918442/recovery-unused-license-water-entitlements-policy.pdf)

<sup>35</sup> Report Card – Northern Territory Water Regulatory Reform Technical Report 8/2021, Page 5 <https://territorystories.nt.gov.au/10070/818198>

18.	cl 35 Environmental and other public benefit outcomes	Partially relevant	The clause recognises environmental water and other public benefit water needs may be 'rules' based or held as water entitlement that are actively managed to achieve the target benefits.  In practice, it is primarily in the connected Murray Darling Basin system where water entitlements are held and managed to attain environmental objectives. The entitlements are primarily held by the Commonwealth Holder of Environmental Water. The underlying primary method of provision for	B, D, E
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Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
			<p>environmental needs (including in the Murray Darling Basin) to is first limit the consumptive share to leave sufficient water to meet identified environmental needs. In significantly developed systems the rules may extend to restricting access for consumptive use when specified flow or water level conditions exist.</p> <p>The NT is progressively developing a rules-based approach. 'Contingent Allocation Rules'<sup>36</sup> currently include a default provision for the environment that applies in advance of statutory water plans. A policy process<sup>37</sup> has commenced to establish an adjunct to the contingent allocation rules that will improve the granularity of the contingent allocation rules. For water extraction licences outside WAP areas the controller has power to set specific access conditions<sup>38</sup>. WAPs<sup>39</sup> can further specify requirements for the conditioning of</p>	

<sup>36</sup> Northern Territory Water Allocation Framework, May 2021: [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/476669/nt-water-allocation-planning-framework.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/476669/nt-water-allocation-planning-framework.pdf)

<sup>37</sup> Northern Territory: Surface Water Take – Wet Season Flows Policy (consultation draft) [https://ehq-production-australia.s3.ap-southeast-2.amazonaws.com/ce7e4459c7e610dc86a5be14461d2272f516834e/original/1667870468/ac6be43d28aeafc336c0e71c705bb279\\_Surface\\_Water\\_Take\\_-\\_Wet\\_Season\\_Flows\\_Policy.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIA4KKNQAKIOR7VAOP4%2F20230311%2Fap-southeast-2%2Fs3%2Faws4\\_request&X-Amz-Date=20230311T034501Z&X-AmzExpires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=c19d2e88e8b73f5c4800e2cfa56d501e2f738f7f177ebf0f793f8cd32318b96e](https://ehq-production-australia.s3.ap-southeast-2.amazonaws.com/ce7e4459c7e610dc86a5be14461d2272f516834e/original/1667870468/ac6be43d28aeafc336c0e71c705bb279_Surface_Water_Take_-_Wet_Season_Flows_Policy.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIA4KKNQAKIOR7VAOP4%2F20230311%2Fap-southeast-2%2Fs3%2Faws4_request&X-Amz-Date=20230311T034501Z&X-AmzExpires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=c19d2e88e8b73f5c4800e2cfa56d501e2f738f7f177ebf0f793f8cd32318b96e)

<sup>38</sup> Northern Territory: Processing Water Extraction Licence Applications Policy; June 2020 [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0007/901618/processing-wel-applications01072020.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0007/901618/processing-wel-applications01072020.pdf)

<sup>39</sup> Northern Territory Water Allocation Plans <https://depws.nt.gov.au/water/water-management/water-allocation-plans>

			water extraction licences necessary to protect environmental and other public benefit outcomes.	
<b>NWI – Water Planning</b>				
19.	cl 36 -37 'Water Plans' (in the NT termed 'Water Allocation Plans) to be prepared for surface and groundwater systems in which entitlements are issued	Partially relevant (see clause 38)	The NT implements water planning processes according to priorities in its situations of limited development with a small and mostly remote population. (see clause 38)	B

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
20.	cl 38 State and territory jurisdictions to determine 'Whether a plan is to be prepared, what area it should cover, the level of detail, the duration of frequency of review, and the amount of resources devoted to its preparation based on an assessment of the level of development of water resources, projected future consumptive demand and the risks of not have a detailed plan'	Relevant	<p>Clause 38 enables jurisdictions to implement water planning that is fit-for purpose according to circumstances and water systems in individual jurisdictions.</p> <p>For perspective, it can be noted that NT has an area that is 160% of the area of NSW, but a population outside Darwin that is just 5% of the population of NSW outside Sydney. As at March 2023 just 595 water extraction licences existed in the NT<sup>40</sup>. There is significant water demand in the more accessible parts of the NT with most licences concentrated close to the highway linking Darwin to Alice Springs. It could be expected that for remote and low demand areas of the NT the preparation of a WAP would have a lower priority than improvement of planning in the areas subject to development pressure.</p>	B

<sup>40</sup> Northern Territory Water Licence Portal <https://ntg.maps.arcgis.com/apps/dashboards/0ec71b3d7e774e64b434034211708514>

21.	<p>CI 39 Establishes water planning guidelines (Schedule E)</p> <p>Specify required content to include:</p> <ul style="list-style-type: none"> <li>- Water subject to the plan</li> <li>- Current system health</li> <li>- Risks to the consumptive pool (e.g. climate change)</li> <li>- Objectives</li> </ul>	Relevant	<p>The Guidelines in Appendix E are high level planning principles for any fit-for-purpose water plan and therefore are relevant to the NT. Relevance in the NT are more related to the extent to which the principles are applied given the NT situation.</p> <p>Basic NT planning requirements are specified, in part, in the <i>Water Act 1992</i><sup>41</sup> and complemented by provisions within a planning process policy<sup>42</sup>, in water allocation policies<sup>43</sup>, licensing policies<sup>44</sup>, and the Strategic Aboriginal Water Reserve Policy Framework<sup>45</sup>.</p> <p>The Guidelines remain relevant however the 'NWI Policy Guidelines for Water Planning and Management 2010' expand on the principles in Schedule E. Parts</p>	B, G
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<sup>41</sup> Northern Territory: Water Act 1992 s22B, s22C, 23

<sup>42</sup> DEPWS Water Allocation Planning Process- Guidelines: Jan 2022 (HAVE I COPY BUT CAN'T FIND SOURCE)

<sup>43</sup> NT Water Allocation Policies <https://depws.nt.gov.au/water/policy/water-allocation-policies>

<sup>44</sup> NT Water Licensing Policies <https://depws.nt.gov.au/water/policy/water-licensing-policies>

<sup>45</sup> NT Strategic Aboriginal Water Reserve Policy Framework [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0011/457553/SWRC-Policy-Framework\\_A4\\_V1.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0011/457553/SWRC-Policy-Framework_A4_V1.pdf)

Item #	NWI Element / component	Relevance to NT	Commentary assessment context observation	Relates to
	<ul style="list-style-type: none"> <li>- Environmental and public benefit outcomes</li> <li>- Uses and users including indigenous</li> <li>- Estimated reliability</li> <li>- Rules for tasking of water</li> <li>- Conditions (e.g. requirement for metering)</li> </ul> <p>Require a pathway to address overallocation or overuse</p> <p>Require a plan duration and review</p> <p>Planning process to include</p> <ul style="list-style-type: none"> <li>- Consultation with stakeholders within and downstream</li> <li>- Application of appropriate level of knowledge</li> <li>- Transparency</li> <li>- Reference to broader NRM processes</li> </ul> <p>Consideration of cross jurisdictional issues</p>		<p>of that document have now been replicated in ‘guideline modules’ on the commonwealth NWI site. Those documents are reviewed for relevance to the NT in other sections of this report.</p>	
22.	<p>CI 40</p> <p>The parties will – ‘consistent with the nature and intensity of the resource’ – monitor objectives and management arrangement and factor in improvements in knowledge and provide public reports</p>	Relevant	<p>The requirements are high-level planning principles. Given the nature of the circumstances in the NT the reference to ‘consistent with the nature and intensity of the resource’ is relevant. The principles should apply to planning in all jurisdictions however the intensity and sophistication in the application of the principles will vary with the nature and intensity of the resource. In the NT water monitoring data and assessment reports are publicly available. The recently completed WAPs include management actions to be carried out in response to monitoring outcomes.</p>	B, E, F

23.	cl 41-45 Addressing currently overallocated and/or overused systems	Partially relevant	Clause 43 recognises that 'States and Territories will determine... the precise pathway' by which issues of overallocation or overuse will be addressed. Over allocation is a potential future issue in the NT because of legacy exemptions from licensing and unused water extraction licences. This is being addressed by	B
Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
			<p>progressively removing exemptions from licencing<sup>46</sup>. Being at an early stage of development overuse issues are less relevant in the NT.</p> <p>NWI requirements with regard to these clauses are specified more fully in the 'NWI Guidelines for Water Planning and Management' addressed separately in this report.</p>	
24.	cl 46-51 Assigning risk for changes in allocation	Partially relevant	<p>The focus is to address separately changes in reliability due to different causes (e.g. climate change, improved knowledge) and apportioning the burden of the change to different stakeholders (e.g. entitlement holders and jurisdictions).</p> <p>Across most of the NT, water resources are not at a stage of overdevelopment the issue of assigning risk is less relevant.</p> <p>The matter of climate change is addressed separately in the part of this report dealing with the guideline on climate change<sup>47</sup></p>	

<sup>46</sup> Report Card – Northern Territory Water Regulatory Reform Technical Report 8/2021, Page 5 <https://territorystories.nt.gov.au/10070/818198>

<sup>47</sup> Module to the NWI Policy Guidelines for Water Planning and Management

25.	<p>cl 52-54</p> <p>Calls for inclusion of indigenous representation in planning processes and incorporation of social, spiritual and customary objectives and strategies to achieve objectives in water plans</p> <p>The NWI requirements are further expanded in the NWI Guideline Module 'Engaging indigenous peoples in water planning and management' addressed separately in this report.</p>	Relevant	<p>Aboriginal people make up a relatively large proportion of the NT population, particularly outside Darwin. The <i>Water Act 1992</i> (s22C) for water plans to include a volume of water as an Aboriginal Water Reserve. Under the <i>Water Act 1992</i> the minister may establish a Water Advisory Committee. These committees include indigenous representation as shown in consultation reports<sup>48</sup>.</p>	F
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Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
26.	<p>Cl 55- 57</p> <p>Interception</p> <p>Deals with the potential for the taking of water that is not managed under water allocations to undermine plan outcomes</p>	Partially relevant	<p>The focus of the clauses is on activities that intercept water before it reaches the jurisdiction of water plans. The clauses reference farm dams and bores, works that intercept overland flow, and large-scale forestry.</p> <p>Because of the sparse population in the NT and the limited nature of development interception activities these are not a current issue. The taking of water under exemptions by the mining industry could be considered interception although that matter is dealt with separately in the NWI, and in any event has been addressed in the NT as noted previously.</p> <p>Interception would be a matter for vigilance but is not a currently relevant in the NT water planning context.</p>	
<b>NWI – Water Markets and Entitlements</b>				

<sup>48</sup> Report on Community Engagement: Western Davenport Water Allocation Plan Review 2017: [https://depws.nt.gov.au/\\_data/assets/pdf\\_file/0006/625047/WDWAP-Comm-Engagmt-Rpt-20122018.pdf](https://depws.nt.gov.au/_data/assets/pdf_file/0006/625047/WDWAP-Comm-Engagmt-Rpt-20122018.pdf)

27.	Cl 58 – 63 Describes desired outcomes being efficient markets, minimising transaction costs, product standardisation and protection of third-party interests. It lists actions relevant to achieving outcomes.	Partially relevant	While the outcomes are relevant to the NT as setting high level principles, the actions specified in the clauses relate to intensively developed system such as the connected Murray Darling Basin system.  In the NT, as of March 2023 only 595 water extraction licences existed with no potential for interjurisdictional trading. Trading is available for the NT water extraction licences that exist under a WAP <sup>49</sup> . It can be expected that trading arrangements will continue to be developed that are appropriate for NT circumstances and in accord with the high-level principles.	
28.	cl 64 – 77 Best practice water pricing and institutional arrangement	Beyond scope		
29.	Cl 78 – 79 Integrated management of environmental water	Not relevant	Deal with the active management of water for environmental and other public benefit outcomes.  In the NT, because of the low level of development and the nature of the resources there is no active management of water beyond the setting of allocation levels through the WAPs	

30.	Cl 80 – 89 Water Resource Accounting	Partially Relevant	Clause 80 notes that the outcome of water resource account is:  'to ensure that adequate measurement, monitoring and reporting systems are in place in all jurisdictions to support public and investor confidence.'  While the principle is relevant to all water planning, the clauses focus primarily on the accounting need to support trading systems in the connected Murray Darling system. These clauses are relevant to the NT only to the extent necessary for supporting national reporting systems.	
<b>NWI – Urban Water Reform</b>				
31.	cl 90- 92	Beyond scope		

<sup>49</sup> Northern Territory: Water Act 1992 s22C



<b>NWI – Community Partnership and adjustment</b>				
32.	cl 93 – 97 Outcomes and actions	Relevant	<p>Clause 95 identifies the need for consultation with all stakeholders in relation to the periodic review of water plans which is relevant to the NT. Effective engagement is a greater challenge in the NT because of the distances involved.</p> <p>Clause 95 also identifies the need for consultation in relation to adoption of pathways to sustainability in ‘overdrawn’ systems and other decision that may affect the security of water entitlements. These aspects are less relevant to the NT because of the low level of development of the resources.</p>	F
<b>NWI – Knowledge and capacity building</b>				
33.	CI 98-101	Relevant	The clauses deal with the need for ongoing improvements to knowledge and recognises the need for a range of jurisdictions and institutions to coordinate contributions to knowledge building. In the NT the DEPWS partners with national and NT research bodies to improve knowledge. This includes current science projects being progressed through the national water grid authority.	E

Item #	NWI Element / component	Relevance to NT	Commentary assessment context	observation	Relates to
<b>NWI Policy Guidelines for Water Planning and Management 2010</b>					
34.	Section 1 Background	Partially relevant	<p>The guideline provides principles that should apply in all water planning processes and matters for consideration during those processes.</p> <p>It can be argued that the NWI agreement in 2004 was driven by the need to take system wide approaches to water management and to use trading as the means of making water available for new use in heavily developed systems such as the connected Murray Darling Basin system.</p> <p>It can be also argued that the 2010 Policy Guidelines were driven by the issues arising from the Millennium Drought and the resulting need to deal with climate change, critical water shortages, and interception activities – such as plantation forestry – that can exist beyond the fringe of water planning but have the potential to undermine water planning. That focus is reflected in the Guidelines.</p> <p>However, those issues are less relevant in the NT where climate change is expected by some to cause less impact than in other parts of Australia as discussed in a later section dealing responding to the ‘2017 NWI Guideline Module’ dealing with ‘Climate change and dealing with extreme events in water planning’. Nevertheless, the principles and considerations remain relevant.</p>		

35.	Section 2 Definitions	Relevant	<p>All definitions are relevant in the NT. Some specific aspects are as follows.</p> <p>‘Sustainable water extraction regime’ is ‘the level of water extraction... that environmental and other public benefit outcomes... can be met at a specified level of risk’. Under the definitions ‘other public benefits outcomes’ includes ‘indigenous and cultural values’.</p> <p>‘overallocation’ is ‘situations where, with allowable full development of water access entitlements and all other forms of authorised use ... the total volume allowed to be extracted .... Exceeds the sustainable water extraction regime.’</p> <p>These definitions are relevant in the NT where the estimated sustainable yield needs to be set with limited understanding of environmental and other public benefit outcomes in situations over allocations is a risk even though systems are not overdeveloped.</p>	
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Item #	NWI Element / component	Relevance to NT	Commentary assessment context      observation	Relates to
36.	Section 3.1 Overarching Principles	Relevant	<p>The Overarching Principles are relevant for all water planning and reflect the principles in the NWI agreement. They are:</p> <ul style="list-style-type: none"> <li>- Plans to have a statutory base</li> <li>- Plans to have a clear water budget</li> <li>- All forms of water use included (e.g. mining)</li> <li>- Monitoring essential – risk based</li> <li>- Integrated management of connected SW/ GW</li> <li>- Indigenous water needs recognised</li> <li>- Water access rights clearly defined</li> <li>- Decision making transparent</li> <li>- Stakeholder engagement throughout the process</li> <li>- Harmonise with other relevant NRM plans</li> <li>- Use knowledge-based decision making</li> <li>- Apply a risk-based approach</li> <li>- Use professional judgement</li> <li>- Provide adequate resources for planning</li> </ul> <p>For the NT territory, as for all jurisdictions, the overarching principles are relevant. It is the degree of detail of process and content that varies with circumstance. Water plans should be fit-for-purpose using the overarching principles as reference list.</p> <p>Water planning in the NT is carried out in accordance with these principles.</p>	B, D
37.	Section 3.2 Stakeholder engagement	Relevant	<p>Principles and considerations particularly relevant to the NT circumstances are as follows:</p> <ul style="list-style-type: none"> <li>- Stakeholder identification: challenges with multiple indigenous language groups and the boundaries of the groups not necessarily aligning with water resource management units</li> </ul>	F

			<ul style="list-style-type: none"> <li>- Timing: the guideline notes stakeholders should be involved early in the process and be involved throughout the process. This is a challenge given the remoteness of NT resources.</li> <li>- Reduce inequalities in bargaining power: This is a challenge given that indigenous interests and major agribusiness interests are key stakeholders.</li> </ul> <p>Engagement requires time: The guideline suggests that as a rule of thumb at least 12 months should be allowed for engagement. In the NT with remote communities and difficulties in identifying cultural values it could be expected that longer periods would be necessary to achieve meaningful outcomes.</p>	
38.	Section 3.3 Developing the plan	Relevant	<p>Principles and considerations particularly relevant to the NT are as follows:</p> <ul style="list-style-type: none"> <li>- Identify the scale and type of plan: The NT water resources tend to be low-use and low-risk systems. The challenge is to use transparent risk assessments to show that basic approaches are fit-for-purpose.</li> </ul> <p>Recent NT WAPs include an adaptive management risk-based approach whereby implementation actions and the resource response are monitored to inform future adjustment of resource management actions.</p>	B
39.	Section 3.4 Describing the water resource	Relevant	<p>Guidance is provided under four subheadings set out below. Principle and considerations particularly relevant to the NT for the four subheadings are as follows:</p> <ul style="list-style-type: none"> <li>- Quantity, quality, key environmental assets. NT circumstances of sometimes poorly understood resources will necessarily require risk assessments including sensitivity analysis of resource modelling.</li> <li>- Current use and users: A challenge in the NT is the clear identification indigenous cultural values in water.</li> </ul> <p>Outlook for the resource base: Less relevant in the NT (see comments on the Climate Change NWI Guideline Module in this report). Although</p>	E

			<p>climate change is seen by some as less of a risk in the NT, the climate change outlook needs to be considered during the WAP process.</p> <ul style="list-style-type: none"> <li>- Outlook for resource use: Highly relevant in the NT where allocations exceed use. Current policy is to reduce unused allocation to avoid overuse. The outlook for resource use will be important in identifying the risk of overuse.</li> </ul>	
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40.	Section 3.5 Setting objectives and outcomes	Relevant	<p>Conceptual models of approaches to managing trade-off between social, environmental and economic interests are provided. The principle of seeking to identify threshold points of change are a challenge in all jurisdictions and are at the heart of water planning.</p> <p>NT's recent WAPs explicitly define objectives and outcomes. They also include adaptive management arrangements whereby the effectiveness of implementation actions achieving plan objectives and outcomes are monitored to inform whether adjustment in planning settings are required.</p>	D
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41.	Section 3.6 Management arrangements	Relevant	<p>Section 3.6 lists principles to guide the development of management arrangements. Principles particularly relevant to the NT are as follows:</p> <ul style="list-style-type: none"> <li>- A risk-based approach to allocation: Should be consistent with meeting explicit outcomes and target set out in the plan.</li> <li>- Assigning risks for dealing with overallocation: The NT has a policy of reducing unused water entitlements which is a deliberate assignment of risk.</li> </ul> <p>Section 3.6.1 Water entitlements. The attributes of fully developed water access entitlement systems are identified. However, the qualifications set out in Clause 33 of the NWI provide that lesser entitlement are fit-for-purpose in the NT.</p> <p>Section 3.6.2 Indigenous Water Use. Sets principles for providing for indigenous water use. Of relevance to the NT is the proposal that in low development systems water be set aside for indigenous cultural and commercial purposes. The <i>NT Water Act 1992</i> (s22C) requires water allocation plans include a Strategic Aboriginal Reserve.</p> <p>Section 3.6.3 Environment: Sets principles for providing water for the environment. It requires water to support environmental values have at least the same level of reliability as entitlements for consumptive use. Arguable this has more relevance where water is held and management for environmental outcomes. For rules-based systems such as those in the NT and all other jurisdictions it is a challenge.</p> <p>Section 3.6.4 Groundwater Specific Management: Comments in the guideline (p35) particularly relevant to the NT are the following:</p> <ul style="list-style-type: none"> <li>• ‘non-renewable groundwater resources require different management regimes to other groundwater systems’.</li> <li>• ‘Decision making should be transparent when it concerns the ‘mining’ of groundwater’.</li> <li>• ‘Criteria should be set outlining the conditions under which ‘mining’ is acceptable. For example, it may be considered acceptable to allow</li> </ul>	B, D, G
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			<p>mining up to a percentage of the overall resource provided there are no adverse impacts on the users of the resource and groundwater dependent ecosystems’.</p> <p>Recent NT WAPs include explicit modelling of, and transparent provisions relating to, the planned usage of groundwater storage. The plans also include management actions to respond to any unplanned depletion identified through ongoing monitoring of the resource. Contingent allocation rules that can be invoked in the absence of a WAP provide for the allocation of a high proportion of non-renewable groundwater storage. However, in practice this has only been invoked for urban needs in the absence of alternative options. It is relevant to note that special access for urban supply is not uncommon in water resource management. Consideration could be given to amending the contingent allocation rules to align with the limited application of this rule.</p> <p>3.6.5 Interception: Interception activities are less relevant for NT systems.</p> <p>3.6.6 Mining: No longer a relevant matter in the NT as mining and petroleum activities have been brought within the planning and entitlement framework.</p>	
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Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
42.	Section 3.7 Monitoring	Relevant	<p>Requires that a monitoring program be included in a water plan that provides for an ‘appropriate’ degree of monitoring.</p> <p>Recent NT WAPs specify the monitoring that is to be carried out (above that which may be required by conditions that have been set for individual licences) as well as the entities responsible to carry out the monitoring (e.g. DEPWS).</p>	
43.	Section 4 Reporting and Review	Relevant	Requires annual reporting on water rules such as annual announced allocation systems and water use. In the NT, water use and the grant of water licences both inside and outside WAP areas is publicly reported.	



44.	Section 5 Risk assessment	Relevant	Recognises that water planning is carried out in an uncertain environment. It calls for water planning to be carried out within a risk framework where risk is assessed in terms of assessment of the likelihood and consequence of risks. This topic is also covered by the 2017 NWI guideline on Risk Assessment which is assessed separately in this report.	B
<b>NWI Guideline Modules</b>				
45.	Engaging Indigenous peoples in water planning and management (2017) <sup>50</sup> – an NWI Guideline Module	Relevant	The NT has a high indigenous population and low levels of water development. The guideline provides information and strategies to assist in engagement.  The guideline proposes that Strategic Indigenous Reserves be considered in underdeveloped systems, a system provided for in the NT <i>Water Act 1992</i> (s22C) and implemented in current WAPs. The guideline recognises the challenges of identifying appropriate representation for indigenous engagement to effectively identify indigenous cultural flow values given the frequent nonalignment of indigenous grouping with resource system boundaries and cultural differences.  The need for effective engagement is particularly relevant in the NT and challenges involved can be expected to impact on timelines for planning.	F

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
46.	Considering climate change and extreme events in Water Planning and Management (2017) <sup>51</sup> An NWI Guideline Module	Partially relevant	The guideline notes current projections for climate change and the resources available to identify changes in projections. It specifies the need for water plans to explicitly consider the risks associated with projected changes to climate and incorporate climate information.  Although the guideline is relevant for all water planning, application in the NT may have less relevance than in other parts of Australia because 'natural climate variability, including distinct wet and dry seasons is likely to remain the	

<sup>50</sup> <https://www.dceew.gov.au/sites/default/files/sitecollectiondocuments/water/indigenous-engagement.pdf>

<sup>51</sup> <https://www.dceew.gov.au/sites/default/files/sitecollectiondocuments/water/climate-change.pdf>

			<p>major driver of rainfall over the next few decades' (page 19). In other parts of Australia the impact of climate change are expected to be more disruptive.</p> <p>The guideline also deals with management of extreme events such as measures to maintain water for critical human needs and triggers for implementation of such measures. Although the need for such measures should be considered in all water planning processes, they can be expected to have less relevance for water planning in the NT given that climate change may have less impact.</p>	
47.	Risk Assessment <sup>52</sup> an NWI Guideline Module	Relevant	The guideline recognises that water planning is carried out in an uncertain environment. It calls for water planning to be carried out within a risk framework where risk is identified in terms of assessment of the likelihood and consequence of risks. In the NT the recently completed WAPs include such assessments as part of an adaptive management approach.	B
<b>Other NWI-related documents</b>				

Item #	NWI Element / component	Relevance to NT context	Commentary	Relates to assessment observation
48.	National Groundwater Strategic Management Framework 2016 – 2026 <sup>53</sup>	Relevant	<p>The framework is identified as a document under the NWI. It is not a guideline but emphasises aspects of groundwater as a resource. It is relevant for the NT because of the importance of groundwater in the NT. It notes (page 3) that most of the NT is completely dependent on groundwater.</p> <p>The document notes the importance of groundwater; that groundwater is a hidden resource; the general need in all jurisdictions for improved understanding of recharge mechanisms, discharge mechanisms, and groundwater dependent ecosystems.</p>	

<sup>52</sup> <https://www.dcceew.gov.au/sites/default/files/sitecollectiondocuments/water/risk-module.pdf>

<sup>53</sup> <https://www.dcceew.gov.au/sites/default/files/sitecollectiondocuments/water/national-groundwater.pdf>

## Appendix B – Productivity Commission Inquiry in National Water Reform 2020

PC 2020 Document element	Commentary re specific content elements relevant to NT
<p>National Water Reform 2020: Productivity Commission Inquiry Report No 96 <sup>54</sup></p>	<p>A report by the Productivity Commission on its 2<sup>nd</sup> triennial review of water reform under the NWI. Key aspects of particular relevance to the NT are as follows :</p> <ul style="list-style-type: none"> <li>• ‘In May 2019 the Australian Government agreed to renew the NWI and in partnership with state and territory governments, has commenced policy renewal process’ (p1). The Report sets the direction.</li> <li>• The existing 8 elements of the NWI remain relevant, but a new element relevant to water planning should be added i.e. ‘ Aboriginal and Torres Strait Islanders people’s interests in water (p8)</li> <li>• Of the current elements of the NWI relevant to water planning, enhancements are proposed to the following elements (P6): <ul style="list-style-type: none"> <li>○ ‘Water planning’ and ‘environmental management’. The drivers for enhancement, while relevant for the NT, are less relevant than in other jurisdictions because climate change is expected to have less impact<sup>55</sup> than in other jurisdictions and NT systems are not over-developed.</li> <li>○ ‘Water accounting’. The driver for increased emphasis is the critical water shortage during drought in the heavily developed systems. For the NT the relevance will be more on metering and transparency in reporting on water use and compliance .</li> </ul> </li> <li>• The commitment to conduct ‘regular effective and well-informed community engagement’ is to be enhanced The Report is further explained by Supporting Papers as set out in the following sections.</li> </ul>
<p>Supporting Paper (A)</p>	<p>A paper published in 2021 by the Productivity Commission to support or further explain its second triennial assessment (2020). The report comprises eleven individual papers – ‘SP A’ to ‘SP K’ - which collectively cover the full scope of the NWI. Each of the SP papers are addressed in the following sections for relevance to the NT.</p> <p>The link to ‘SP A’ includes all of the other SP papers which makes page referencing problematic as each SP paper is page numbered individually. Therefore, a link to each individual SP paper is included for each paper</p>

<sup>54</sup> National Water Reform 2020: Productivity Commission Inquiry Report No 96: <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020.pdf>

<sup>55</sup> <https://www.dceew.gov.au/sites/default/files/sitecollectiondocuments/water/climate-change.pdf>

PC 2020 Document element	Commentary re specific content elements relevant to NT
<p>'SP A' Water entitlements and planning<sup>56</sup></p>	<p>As a 'Key Point':</p> <ul style="list-style-type: none"> <li>• 'Water planning to adopt best practice principles: 'be fit-for-purpose; recognise the needs of Aboriginal and Torres Strait Islander people, clearly specify environmental objectives and outcomes, be based on a trade-off of environmental social and economic outcomes, involve appropriate engagement and be independently reviewed'. (p4)</li> </ul> <p>Other content relevant to the NT:</p> <ul style="list-style-type: none"> <li>• Notes all jurisdictions other than NT (and WA) have statutory based entitlements consistent with NWI (p8)</li> <li>• Notes 'Entitlements and access rights can differ across and within jurisdictions reflecting differences in the level of development and complexity of water systems and varying levels of associated risk' (p11)</li> <li>• Notes that the NT 'provides an example of how mineral and petroleum industries have been fully integrated into the entitlement framework' (p13)</li> <li>• Notes in relation to water planning being fit-for-purpose: 'in relatively undeveloped systems there is less pressure on the resource and a simplified to planning may be adopted' (p26)</li> </ul>
<p>'SP B' – Water trading and markets<sup>58</sup></p>	<p>The focus of the paper is on fully allocated water resources such as the Murray Basin where dynamic and secure trading systems are needed.</p> <p>However, the paper notes with regard to the NT:</p> <ul style="list-style-type: none"> <li>• 'The northern Territory has made significant changes to its water entitlements and planning systems which led to the first water trades in 2019' (p8)</li> <li>• Notes 'NT has made progress in improving registers' (p28)</li> </ul>
<p>'SP C' Environmental Management<sup>57</sup></p>	<p>The focus of the paper is on the impact of drought in stressed systems such as the Murray Darling Basin and the potential need for adjustment in response to those issues including the management of water held and managed to achieve environmental outcomes.</p>

<sup>56</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportinga.pdf> <sup>58</sup>

<https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingb.pdf>

<sup>57</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingc.pdf>

PC 2020 Document element	Commentary re specific content elements relevant to NT
	<p>However, a 'Key Point' relevant to the NT:</p> <ul style="list-style-type: none"> <li>• The paper notes that objectives in water planning include a focus on 'clearly identifying environmental objectives and outcomes' (p4)</li> </ul>
<p>'SP D' Securing Aboriginal and Torres Strait Islander people's interests in water<sup>58</sup></p>	<p>A major focus for the Inquiry as a whole. As Key Points:</p> <ul style="list-style-type: none"> <li>• 'Aboriginal and Torres Strait Islander people have articulated their aspirations for access to water for unconstrained use (that is for both cultural and economic purposes' (p4)</li> <li>• 'A new NWI element is being developed 'covering Aboriginal and Torres Strait Islander people's interests in water (p4)</li> <li>• 'Clear measurable well informed cultural outcomes should be agreed in water plans (p4)</li> <li>• 'Cultural outcomes should be pursued through environmental watering where they are consistent with achieving agreed ecological objectives'(p4)</li> <li>• 'Where the consumptive pool has not been fully allocated reserves can be created as has happened in the NT, Qld and WA(p4)</li> </ul> <p>With regard to the NT, the paper notes concerns regarding Indigenous consultation. More detailed comments are contained in paper 'SP J - Community Engagement'. In this paper (SP D) the more general comments made (p21):</p> <ul style="list-style-type: none"> <li>• 'Concern has been expressed that there has been a substantial decline in engagement over recent years in the NT' (p21)</li> </ul> <p>With regard to the NT the paper also notes (p18)</p> <ul style="list-style-type: none"> <li>• 'NT has advised (pers com) 'In the NT recent water plans have highlighted the need for ongoing work to identify Aboriginal cultural values and their water requirements'.</li> </ul>
<p>'SP E' Ensuring the integrity of water resource management<sup>59</sup></p>	<p>The focus is on stressed systems such as the Murray Darling Basin system.</p> <p>However, the principles are relevant to the NT. As Key Points:</p> <ul style="list-style-type: none"> <li>• 'Credible information about how water is used (and by who when and why) combined with robust institutional process underpins the integrity of water management systems'(p4)</li> </ul>

	<ul style="list-style-type: none"> <li>• A renewed NWI would be strengthened by broadening the water accounting element to ensure credible and reliable information’(p4)</li> <li>• NWI should require ‘fit-for-purpose’ metering reporting and compliance systems (p4) Of specific relevance to the NT, the paper notes: ‘The NT is implementing its <i>Non-Urban Water Metering Code of Practice for Water Extraction Licences</i> (introduced in mid-2017)’ (p11)</li> </ul>
‘SP F’ Urban water services <sup>60</sup>	Beyond scope for this review
‘SP G’ Urban water services regional and remote <sup>61</sup>	Focus on stressed systems. Notes the advantages of market-based systems for adjustment.
‘SP H’ Water reform in rural and remote communities <sup>62</sup>	Focus of stressed systems. Notes the advantages of market-based systems for adjustment
‘SP I’ Government investment in major water infrastructure <sup>63</sup>	Beyond scope for this review

<sup>58</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingd.pdf>

<sup>59</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportinge.pdf>

<sup>60</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingf.pdf>

<sup>61</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingg.pdf>

<sup>62</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingh.pdf>

<sup>63</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingi.pdf>

<p>'SP J Community engagement<sup>64</sup></p>	<p>Key Points:</p> <ul style="list-style-type: none"> <li>• Proposes in that in redesigning partnership elements of NWI governments should consider developing an organising framework based on a list of objectives. Listed objectives (p4) particularly relevant to the NT are:</li> <li>• Continuously improving and sustaining government engagement</li> <li>• Ensuring engagement effort and resourcing is fit-for-purpose</li> <li>• Clarity about the purpose of engagement</li> <li>• Stakeholders to have opportunity for meaningful input</li> </ul> <p>The paper notes that progress on engagement across jurisdictions has been mixed. With regard to the NT the paper notes that the NLC submission expressed the views (p9):</p> <ul style="list-style-type: none"> <li>• 'In the NT over recent years we have seen a continued erosion of the ability for community and stakeholders to be involved in water management decisions'</li> <li>• 'community engagement arrangements associated with water planning, licensing and management in the NT need to be significantly improved'</li> <li>• 'based on the information available through WAC minutes, in 2017 there were a total of 80 people appointed to WACs. As at March 2021 there are 12'</li> </ul> <p>'as there are no other formal mechanisms for the NT government to involve community and stakeholders in water allocation planning, the substantial diminishing of water advisory committees since 2017 is on concern to the NLC'</p>
<p>'SP K' Knowledge building<sup>65</sup></p>	<p>As Key Points (p4):</p> <ul style="list-style-type: none"> <li>• Governments have a role in funding knowledge generation - provides the foundation of evidence-based planning</li> </ul> <p>Need sound relationships between knowledge generator and users</p>

<sup>64</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supportingj.pdf>

<sup>65</sup> <https://www.pc.gov.au/inquiries/completed/water-reform-2020/report/water-reform-2020-supporting.pdf>