

Situation Report

Western Davenport Water Allocation Planning

August 2009

Contents

- Introduction.....3
- Context4
- Background information4
 - a. Description of the resource4
 - b. Western Davenport Water Control District7
 - c. Western Davenport Water Allocation Plan8
- Current Usage9
- Community Consultation10
- Key Issues and knowledge gaps.....11
- Relevant Investigations to be undertaken.....13
 - a. Risk Assessment of Water Dependent Ecosystems13
 - b. User Investigation13
 - c. Indigenous Consultation13
- Timetable13
- Proposed Content of Water Plan.....14
- Other Relevant Reading15

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Introduction

The Department of Natural Resources, Environment, The Arts and Sport (DNRETAS) is commencing the development of a Water Allocation Plan (WAP) for surface water and groundwater in the Western Davenport Water Control District (the District). This plan will define the rules for the sharing and allocation of this water for the next ten years. It will cover the whole of the District. The development of a WAP is of vital importance to people in this region who depend on its water resources, as well as critical for the protection of natural assets which maintain Indigenous cultural and environmental values for future generations.

This document is intended to provide information about the planning process and how the community can contribute. It provides:

- Context about water allocation planning in Australia and the Northern Territory (NT);
- Details about the region and its water resources;
- Current usage of groundwater in the region;
- The processes for community consultation in developing the WAP;
- Key groundwater resource issues within the region and identified gaps in our knowledge about the resource;
- Timetable for the planning process; and
- Proposed content of the Plan.

Context

With water being such an important resource, planning for water use and conservation is a priority for all Australian Governments. Water planning is intended to provide security for water users and the environment by defining rules for the distribution and management of water resources.

The *Water Act (NT) 1992* (the Water Act) is the legislation which provides for the investigation, allocation for use, and management of water resources by the NT Government. This includes the protection of water supply for environmental, economic, recreational, social and cultural uses. The Water Act allows the declaration of Water Allocation Plans (WAPs) within Water Control Districts (WCDs) in order to allocate water to specific beneficial use categories. Beneficial uses are listed and defined in s4(3) of the Water Act. Water Control Districts have been declared in the Southern Region of the NT for Alice Springs, Ti Tree, Tennant Creek and the Western Davenports. Water Allocation Plans have been created in Alice Springs and Ti Tree.

The National Water Initiative 2004(NWI) is the major policy document of the Federal, Territory and State governments made in relation to water allocation and planning. Its basic premise is that governments have a responsibility to ensure that water is allocated and used to achieve socially and economically beneficial outcomes in a manner that is environmentally sustainable. It advocates management of surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes by achieving secure water access entitlements; transparent, statutory-based water planning; and making statutory provision for environmental and other public benefit outcomes. It specifically calls for recognition of indigenous needs in relation to water access and management. The Northern Territory Government agreed to an NWI Implementation Plan in 2006.

The Western Davenport Water Control District (the District) hosts significant water resources which are starting to be used for horticultural development, as well as for traditional uses by the community and for pastoral purposes. A WAP is being developed to provide security for water users and to define the rules which will enable developments that depend on groundwater to proceed in a sustainable manner.

Background information

a. Description of the resource

The hydrological cycle in Central Australia is the same as everywhere else. When rain falls on land, some water evaporates, some runs off to creeks and rivers (which might normally be dry), and some seeps into the soil and is absorbed by plant roots. Excess water in the soil may percolate further down until it reaches a level known as the water table where all the pores or fractures in the rock are saturated with water. Water in this saturated zone below the

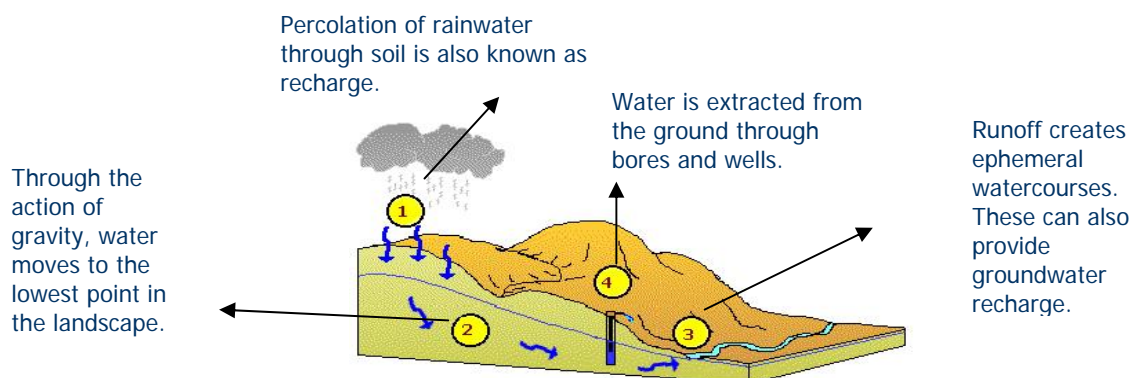


Figure 1: The Water Cycle

water table is called groundwater.

Sometimes this recharge of groundwater can result in water level changes in a matter of weeks, and sometimes the recharge moving through the whole water system may take centuries. An aquifer is a localised body of groundwater which shows similar characteristics of quality and yield when the water is extracted to the surface.

The Western Davenport Water Control District overlies several major aquifers or groundwater resources which have the potential to provide large amounts of high quality groundwater. A lot of this water particularly in the upper aquifers which are in Cainozoic sediments is contained in a sedimentary aquifer where the water lies within the pores of sandstone. There is also water contained in fractured or weathered rock aquifers, ie the water is found in the gaps between the rock tens to hundreds of metres below the soil surface. Water extracted from this resource is predominately used for domestic, pastoral stock, and horticultural purposes.

Within the District there are also ephemeral surface watercourses, that is, the creeks and rivers only hold water after rain and not necessarily all year round. Because of their nature they are not a reliable point of extraction. In the Arid Zone the NT government applies a guideline for extraction that no more than 5% of arid river flow at any time and at any point can be extracted for consumptive use. While these watercourses are consequently not significant as a source of water extraction, they are very important as sources of recharge into the groundwater system. Surface water resources within the District are also important as they sustain most of the significant cultural and environmental sites in the area, such as swamps and floodouts, and support the biodiversity to be found at such sites.

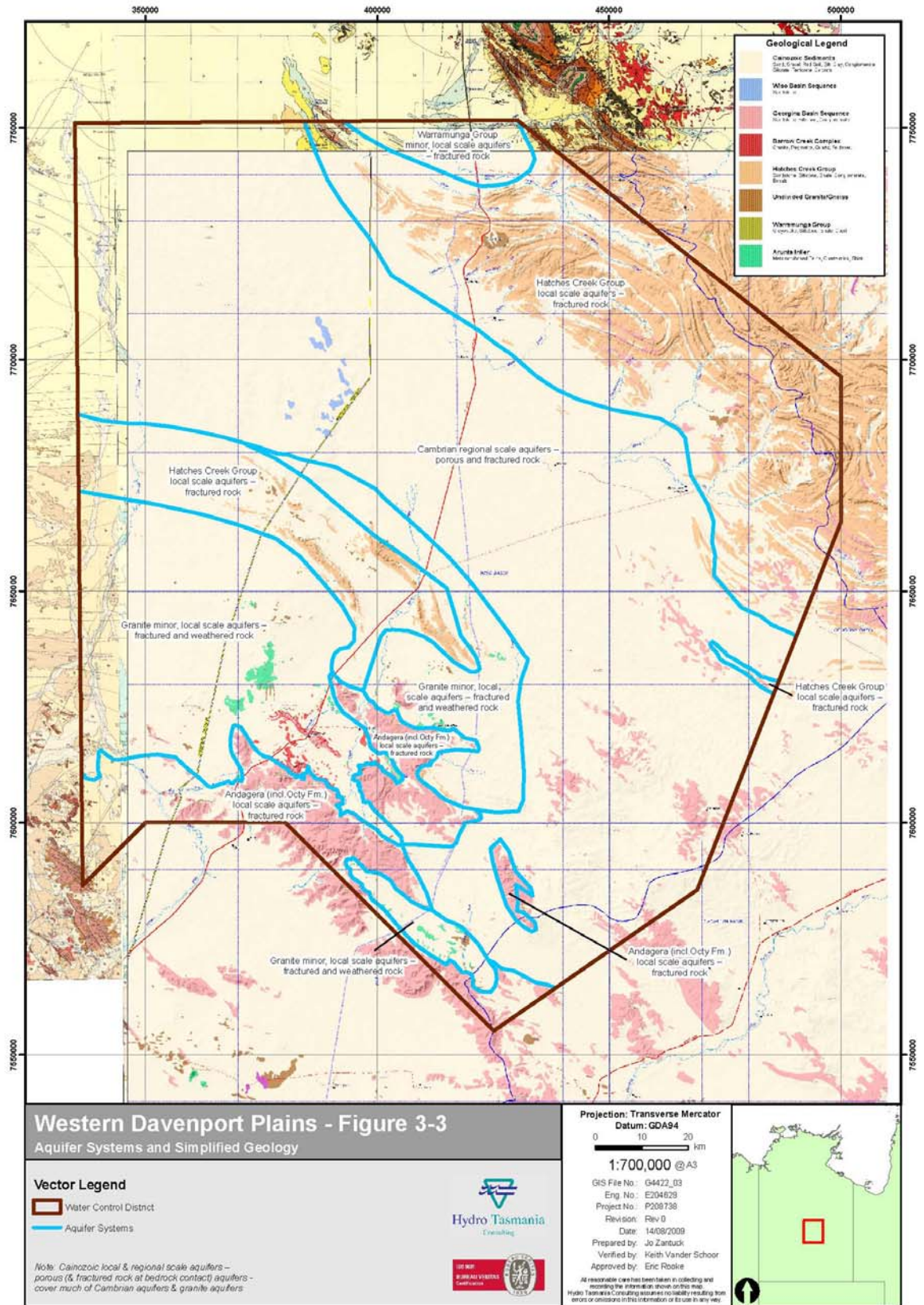


Figure 2: Water Resources Western Davenport Region

b. Western Davenport Water Control District

The Western Davenport Water Control District was declared by the Minister for Natural Resources, Environment and Heritage on 11 October 2007. WCDs are statutory instruments under the *Water Act* that allow implementation of a greater degree of water management. Within a WCD:

- All groundwater and surface water extraction, excluding for stock and domestic purposes, must be licensed and metered
- Bore construction permits with minimum construction standards designed to prevent contamination of the aquifer are required
- Water allocation plans can be declared.

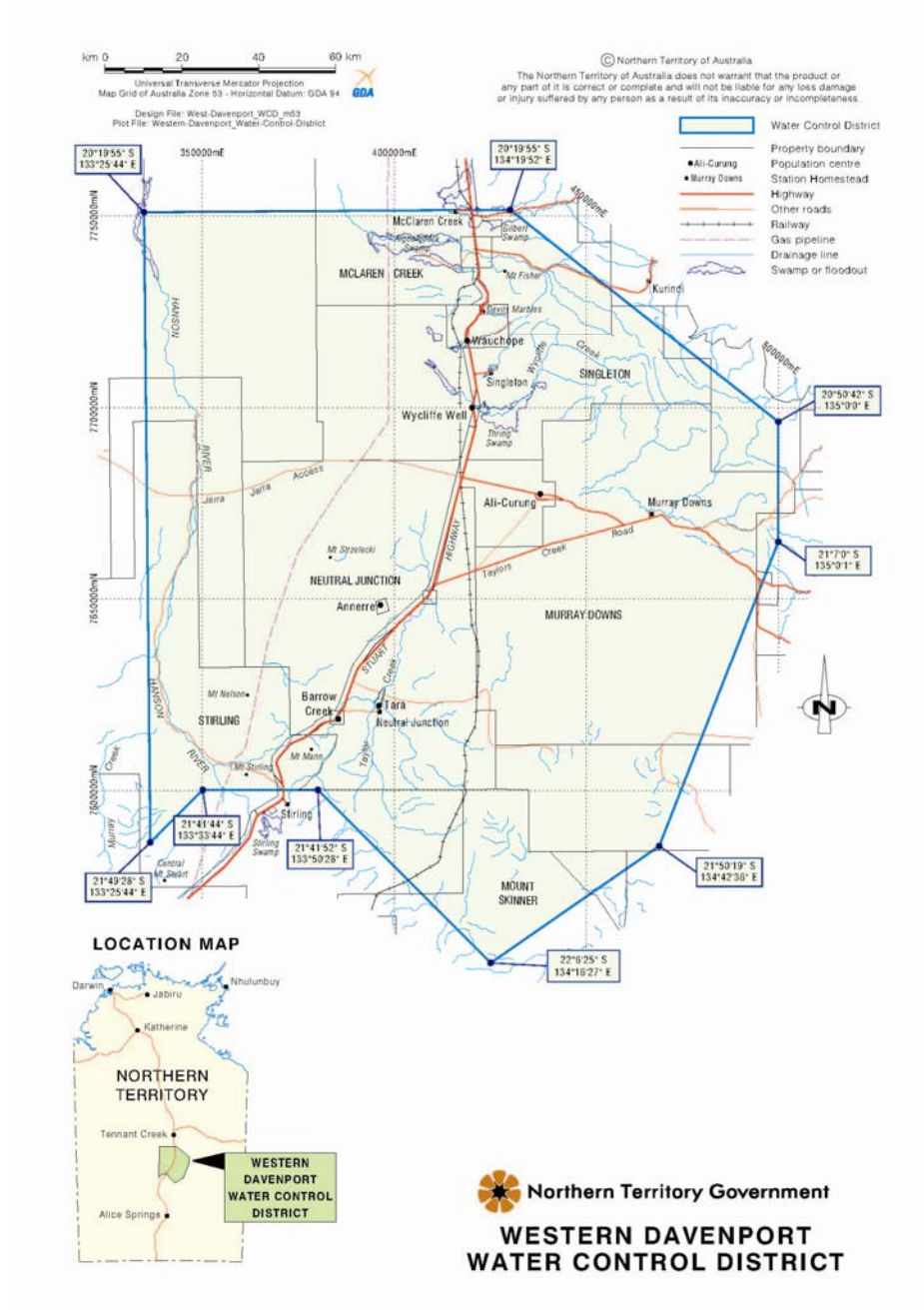


Figure 3: Western Davenport Water Control District

Beneficial uses

Under the Water Act, a WAP must allocate water to beneficial uses to ensure all user groups, including the environment, are accounted for and managed appropriately. Beneficial uses (which are defined and listed in the Water Act) are a way of describing the different purposes for which water is valued. They are separated into two categories, consumptive and non-consumptive uses. Non-consumptive use is the water necessary for the survival of water dependent environmental and cultural sites. Consumptive use is the water that is extracted for consumptive purposes such as horticulture and agriculture, and will only be allocated after the non-consumptive uses have been met.

A WAP is declared to ensure that water within the WCD is allocated to beneficial uses as listed in the *Water Act*. This list includes agriculture, public water supply, the environment, cultural needs, industrial needs (including mining), as well as the provision of water for pastoral stock and domestic purposes.

Non-consumptive values

There are a number of significant ephemeral swamps and flood outs in the District, which are generally considered to be dependent on surface water flows including the Thring Swamp, Warrabri Swamp, Skinner Creek flood out, and the Bonney Creek, McClaren Creek and Gilbert Creek floodouts. It is likely that many of these sites are culturally and spiritually significant to local indigenous communities. There is a lack of knowledge about their level of significance for cultural and environmental purposes. The extent, if at all, to which any of these sites is dependent on groundwater is also unknown. Part of this planning process will endeavour to identify and assess these sites.

Current Usage

Groundwater is the main water resource for consumptive use in the southern region of the NT. A significant use of groundwater in the District which does not require licensing or metering is for stock and domestic uses. Assuming that there is a maximum carrying capacity of 18,750 head of cattle within the District which require an average of 50 KL/day, it is estimated that a total of 94 ML is used per annum to water stock*. On the basis of the population residing on stations, Aboriginal outstations and other communities **not** using licensed public water supplies, estimated at a total of 250 people with an average use of 1,000L/person/day for domestic use*, total extraction for domestic use is roughly calculated as a total of 91 ML per annum.

For most valid and pending licences in the WCD, usage is metered and monthly extraction amounts are reported to the Department.

Groundwater:

Type of Licences	Licenses issued	Licenses Pending	Amount Valid and Pending Licensed (ML/year)	Reported Average Used (05-09) (ML/year)	Peak Usage (ML/year)
Public Water Supply	3		365	288	309
Horticultural purposes	1	2	5250	366	497
Roadhouses	3		43	155	155

* These estimates are based on carrying capacity figures taken from the Australian Valuation Office (2000).

* The water design criteria for remote communities recommend a reference level for design purposes as 1200 litres per equivalent person per peak day (Indigenous Community Engineering Guidelines: 2008). Peak demand anticipates that population is not stable year round and so this figure has been rounded down to suggest an annual average.

Community Consultation

Initial Consultation and Stakeholder Analysis

It is anticipated that an initial community meeting will be held at a venue such as Wycliffe Well in early spring 2009 to identify key interest groups in the District, seek local knowledge and identify what regional issues and knowledge gaps need to be addressed in the Plan. Targeted stakeholders will be invited and a general advertisement will be placed in the papers and on the radio if the advertisements are prepared in time to elicit interested parties to attend who have otherwise been omitted from the first mailout. The intent is to consult with stakeholders from the District about the development of the WAP.

The purpose of community consultation is to ensure relevant advice and recommendations are provided to the NT Government on behalf of those who hold an interest in the way water is allocated and managed. The aim for NRETAS Water Resources branch is to have regular contact and discussions with the community and other stakeholders, and to encourage community input throughout the development of the WAP. In other WCDs Water Advisory Committees have been established to advise the NT government on water allocation planning processes. However given the limited number of stakeholders in the District and the current lack of competition for the resource, direct consultation with the community is regarded as more advantageous in this instance.

The Water Resources Branch will regularly consult with stakeholders to discuss matters relating to the Plan. Particular advice is being sought from CLC as to how best consult with indigenous stakeholders. The aim of these public meetings will be to provide information from NT Government staff, technical experts and any other related project outcomes, and to develop the community's expertise and exposure to the water planning process. With this expertise the community will be able to provide recommendations to the NT Government ensuring community values are incorporated into the WAP.

Once a draft WAP has been prepared, community and stakeholder review and feedback will be sought, and a second community meeting will be organised so that stakeholders can air their comments and feedback in a public forum, as well as by direct submission via email or letter to the Water Planner.

The stakeholders who should be consulted about the development of the WAP include representation of the following interest groups :

- Public Water Supply Utility (PAWC)
- the local community
- Horticulture
- Pastoralism
- Indigenous Interests (CLC)
- Indigenous economic interests (Centrefarm)
- Environment
- Tourism/Business (Roadhouses)
- Local Government (Barkly Shire)
- Mining/Industry
- DRDPIFR

Consultation and engagement methods during the formulation of the WAP will include communication of licensing and regulation updates to organisations and individual stakeholders, presentations to organisations when requested, at least one public information forum, (most probably at Ali Curung which is the largest community), solicitation of submissions on the draft WAP either online or in writing, provision of background documentation and supporting material upon request, internet updates to a dedicated website and media releases.

Key Issues and knowledge gaps

As part of the situation analysis, key issues and knowledge gaps are to be identified. The knowledge gaps are the areas where there is a lack of information to adequately cover the key issues to be addressed by the Plan. Possible issues and proposed investigations intended to assist in covering the knowledge gaps are suggested below. This list is subject to revision following community input.

Key Issues	Explanation	Knowledge Gaps	Investigations Proposed to Assist
Extent of water resources	A lot of investigation work has been done on water resources in the District but it has not been considered and collated in a meaningful way for the whole of the District.	Extent and quality of water resources in the District.	- A Technical Report has been commissioned to identify the water resources available for allocation based on sustainable yield, and taking some account of differing climate change scenarios.
Protection of water dependent ecosystems	It is important for environmental/conservation groups and Indigenous people is to have water dependent ecosystems protected to ensure the retention of high environmental and cultural values.	Whether changes in groundwater levels associated with extractive use would impact on significant sites	- A report has been commissioned to identify water dependent sites in the District and their likely dependence on groundwater
Unknown Usage	Unlicensed use for stock and domestic purposes, small communities and mining is not known.	Amounts of extraction unknown	- Informal investigation of current levels of development

Assigning water for future development	The WAP will allocate water for uses including irrigation, public water supplies, and stock and domestic purposes. There is currently limited information relating to the development of the area and whether the resource can sustain the development.	Water resource capacity including the possible effects of climate change on the availability of groundwater.	<ul style="list-style-type: none"> - A Technical Report has been commissioned to identify the water resources available for allocation based on sustainable yield, and taking some account of differing climate change scenarios.
Fulfilling Indigenous cultural values	The plan will address, as far as possible, the protection of Indigenous cultural values, including protection of significant cultural water dependent sites and retaining the ability for cultural activities.	Location of significant sites and associated water requirements are largely unknown	<ul style="list-style-type: none"> - Identification of water dependent ecosystems - Indigenous Consultation
		How to account for cultural needs that are separate from environmental values	<ul style="list-style-type: none"> - Indigenous Consultation
Climate Change	The average recharge to the water resource may change as a result of long term changes in climate.	The possible effects of climate change on the availability of water from the water resource	<ul style="list-style-type: none"> - Some allowance has been made in the technical report but ongoing monitoring and incorporation of new information will be required in the future.

Relevant Investigations to be undertaken

As part of the Western Davenport water allocation planning process, several projects are to be commissioned to help bridge some of the identified knowledge gaps.

a. Risk Assessment of Water Dependent Ecosystems

The aim of this project is to be able to assess the potential risks to water dependent ecosystems in the Western Davenports under different water use scenarios.

This part of the project will be to commission a report to NT Government with the following aims:

- Undertake a desktop analysis using available data and literature to identify water dependent ecosystems within the District
- For such ecosystems assess the level of dependence on groundwater and the optimal environmental groundwater requirement (if any) to maintain their functionality.
- Describe the ecological values of these sites as well as the significance of each of these values to ecosystem function (if possible) and where possible document the risk to each of these values for a range of possible groundwater levels, if the sites are considered groundwater dependent.

b. User Investigation

With the announcement of the planning process for the Western Davenport WCD, all water users will be contacted by NTG staff to discuss the implications of how the Plan may affect them. Users will include pastoralists, irrigators, Power and Water, industry (including roadhouses and miners), and any other consumptive users.

c. Indigenous Consultation

The Western Davenport WCD has a high percentage of land which is owned by Aboriginal Land Trusts (ALTs) and Aboriginal Corporations. The largest community by far in the District is Ali Curung on Warrabri ALT towards the centre of the District. As a result of the involvement of Centrefarm, it has been one of the first areas within the District to receive a groundwater extraction license for an enterprise intended to facilitate indigenous economic activity through lease payments and job provision.

There are expectations for the involvement of local Traditional Owners in the water planning process. Departmental staff will work in conjunction with CLC, Centrefarm and other relevant groups to help facilitate engagement in relation to:

- The identification of water dependent sites that have cultural and social significance to indigenous people.
- Identification of aspirations for future water dependent economic development
- The submission of comments on the draft WAP.
- Regular communication in relation to WAP updates.

Timetable

An indicative timeframe to develop the WAP is provided below. This is an indicative guide only and may be varied.

STEPS/OUTPUTS	WHEN
Initiation including provision of information to stakeholders	AUG 2009
Discussion paper, including public feedback on outcomes and objectives	SEPT 2009
First draft of Water Allocation Plan	SEPT 2009
Further community consultation	SEPT 2009
Public submission period	OCT 2009
Final plan including summary & response to submissions	NOV-DEC 2009
Final documents are ready for Ministerial approval	EARLY 2010

Throughout this process community input will be sought and at specific stages broader consultation will take place. This includes formal feedback on the situation analysis report and on the draft WAP, as well as any meetings or workshops as required.

Proposed Content of Water Plan

The aim of the following section is to give a broad understanding of the contents of final WAP. Final content will vary depending on the outcomes of the planning process.

Introduction

The scope of plan, its legal basis and effect, the date of commencement and expiry.

Water Control District

Description of the water control district, its population, environment and climate.

Context of Water Allocation Plan

Description of the policy and legislation underpinning the water allocation plan, its objectives and the community consultation involved in its preparation

Water Resources

The nature and extent of the water resource and how it may respond to extraction

Water Use

The extent of current use in the District including current licences issued, as well as environmental and cultural uses. Discussion of possible consumptive uses in the future,

Water Allocation and Licenses

Overarching policy on water allocation. Specific requirements for bore construction permits and water extraction licenses. Explicit provision for further research being required at the discretion of NRETAS from applicants for future water extraction licenses. How the

Controller is to apply the plan in relation to management of licences and permits, Including annual allocations, granting of new licences, granting of new permits, and amendment of existing licences. Risk analysis on varying levels of extraction. Analysis of the limitations of the plan and identifying the assumptions on which the plan is based. Water license trading rules

Monitoring and performance review of the plan

Sets out how monitoring and performance indicators will be implemented and reported. Also how additional information will be gathered to improve management and inform the five yearly review. How the plan will be reviewed.

Implementation

Sets out a timetable for implementing the strategies encapsulated in the Plan and for reporting on implementation.

Appendices

Summary of stakeholder submissions and responses

Other Relevant Reading

Web Material:

Northern Territory:

Water Act www.austlii.edu.au/au/legis/nt/consol_act/wa83/ -

Water Resources in Northern Territory, <http://www.nt.gov.au/nreta/water/index.html>

Water Fact Sheets, <http://www.nt.gov.au/nreta/publications/natres/waterfactsheets.html>

Groundwater <http://www.nt.gov.au/nreta/water/ground/map.html>

Federal Government

National Water Commission, <http://www.nwc.gov.au>

National Water Initiative <http://www.nwc.gov.au/nwi/index.cfm>

Reports:

Technical report : Eric Rooke (2009) Assessment of Groundwater Resources in the Western Davenport Water Control District.

Non technical overview: G Ride (2007) Land & Water Resources of the Western Davenport Plains: A General Summary NRETAS, Alice Springs WRA07023

Wetlands in the Arid NT : <http://www.nt.gov.au/nreta/wildlife/nature/aridwetlands.html>