



Alice Springs Town Basin

Did you know that the Alice Springs Town Basin non-potable aquifer (water resource) is as valuable as the potable resource from the Amadeus Basin Rock Aquifers (Roe Creek borefield)? In fact, using non-potable water for irrigation within the township is an excellent way to reduce demand on our precious drinking water supply. Since good quality water resources are scarce in the desert, using the non-potable water system wisely is a critical key to ensuring that our good quality drinking water lasts as long as possible.

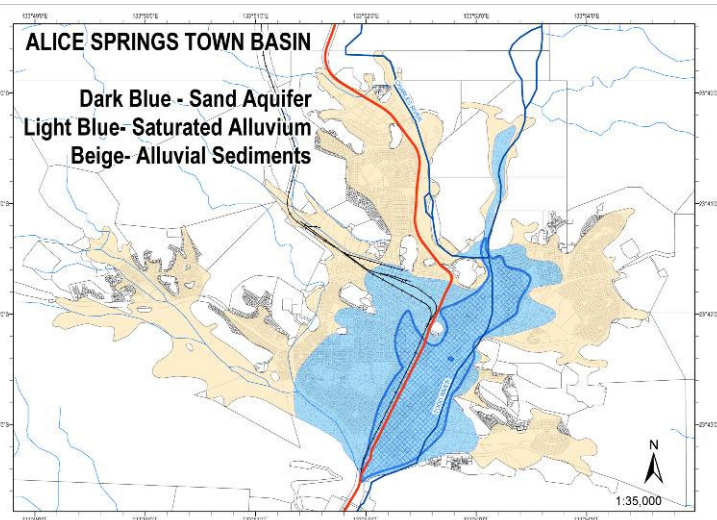
1. Reduction of the potable water demand from the Roe Creek borefield by demand substitution to the non-potable system.
2. Longer term improvement of water quality (salinity reduction) in the Town Basin by reducing the water level in the basin and thus allowing greater recharge of fresh water during rainfall events.

How Much Water Can We Use From the Town Basin Aquifer?

The volume of water that can be extracted from the Town Basin aquifer for non-potable use is limited by three major factors: the total volume available, critical water levels and the location of bores.

The total volume available for all the Town Basin users (e.g. Power and Water, Alice Springs Golf Course) has been capped by the Department of Natural Resources, Environment, the Arts and Sport. Power and Water is currently licensed, under the Water Act, to extract up to of 800 megalitres every year, depending on water levels in the Basin.

As outlined in the Alice Springs Water Resource Strategy 2006-2015, to maintain the health of the river red gums, the water levels in the Town Basin should not be allowed to decline any more than eight metres below the Todd River bank level. To manage this constraint, Power and Water's production bores have been grouped into 2 distinct sectors: River sector and Traeger sector. Power and Water's Extraction Licence for the Town Basin stipulates that pumping must cease in a given sector when a trigger water level is reached.



What is Alice Springs Non-potable Water System?

Since 1996, most parks, sporting ovals and school grounds in Alice Springs have been irrigated using a non-potable water system which is managed by Power and Water. This non-potable system sources its water from the Town Basin aquifer which is located directly under Alice Springs Township. The water is classified as non-potable due to its high salinity which varies considerably across the aquifer. Using the Town Basin aquifer for irrigation has two main benefits:

Trigger Levels?

In September 2008, due to an extended period of low rainfall coupled with gradual increases in non-potable use, the water levels in the Town Basin aquifer were the lowest observed since 1970. Consequently the water level in the Todd River sector reached its trigger level and Power and Water were required to cease extraction from this sector. This considerably reduced non-potable pumping capacity from seven bores to four bores.

When Power and Water relies more on water from the Traeger sector water quality can become an issue. Historically, it has been observed that the water extracted from the Traeger sector is more saline (inferior quality) compared to the water from the River sector. Therefore, if the water is only pumped out of the more saline Traeger sector, the overall water quality will decrease. This may have implications for garden or turf maintenance.

To ensure that non-potable water demand is maintained, Power and Water must top-up the non-potable system with potable water from the Roe Creek borefield. Sometimes, especially during hot summer months when demand is higher, the top-up volume from good quality drinking water can be substantial.

Power and Water will be considering options to secure current and future supply from the non-potable resource. However, it is also the responsibility of the water users to make sure they are using the water resource in the most efficient way.

Looking to the Future

When Power and Water needs to top-up the non-potable Town Basin water supply to meet demands, more pressure is placed on our good quality water resource and over time this may reduce the life of this precious resource more quickly than necessary. This may also have financial implications for non-potable users as the non-potable tariff is lower than the potable water tariff. If potable water is used to top up the

non-potable supply, the non-potable water tariff may need to increase.

Extraction of potable water from the Roe Creek borefield is also under various constraints such as a capped extraction licence and infrastructure limitations. Power and Water's policy is that the provision of potable water is a priority; therefore water will only be transferred to the non-potable system if the potable system has the capacity to supply it.

The Alice Springs Water Resource Strategy 2006-2015 has capped potable water extraction at rates expected to be reached by 2017, therefore Alice Springs' long term growth can only be met through water conservation and good water management. NRETAS believes that efficient water management techniques should be put in place to minimise the use of potable water in the non-potable system.

With the assistance of the NRETAS Water Management Branch and Power and Water, users of the Town Basin aquifer must put in place efficient water management systems to allow the resource to last as long as possible. Keeping up to date with water efficient technology and increasing your organisation's awareness of the non-potable water resource issues and constraints is the first step in realising a more sustainable Alice Springs and optimising the use of that valuable Town Basin water resource.

Useful Links

Alice Springs Water Management Strategy:
<http://www.nt.gov.au/nreta/water/aswrs/index.html>

NT Waterwise Central Australia Rebate Scheme:
<http://www.nt.gov.au/nreta/water/wise/index.html>

NT Waterwise Schools Program:
<http://www.nt.gov.au/nreta/water/wise/schools.html>

Further Information: Water Resources Branch - Department of Natural Resources, Environment, the Arts and Sport
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