

Northern Adelaide Plains Water Allocation Plan

Review



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Management Board**

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This document has been prepared by the Northern Adelaide and Barossa Catchment Water Management Board to present the findings of a review of the Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area. The review has been undertaken via a consultative process with a broad range of community and industry stakeholders – their cooperation and contribution to the review is gratefully acknowledged. The review process and consultation was designed and undertaken by Dr Nicole Motteux with assistance from other Board staff and members of the Northern Adelaide Plains community.

Insofar as this review draws conclusions or carries recommendations on proposals for future action, it must not be assumed from this review that it alone forms the entire policy of the Northern Adelaide and Barossa Catchment Water Management Board. The Board accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this document by any third party.

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**Government
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1. The Process to Review the Northern Adelaide Plains Water Allocation Plan

In accordance with the *Water Resources Act 1997* and policies contained in the State Water Plan, the Board is required to review its water allocation plans every five years. This report details the process and key findings of the review of the Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area.

The Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area was prepared by the Northern Adelaide and Barossa Catchment Water Management Board in 1999-2000 and approved by the then Minister for Water Resources on 22 December 2000. The plan outlines the policies under which licences for groundwater are issued, used and transferred in the Northern Adelaide Plains Prescribed Wells Area.

The Board developed a strategic framework to guide the review of the Northern Adelaide Plains Water Allocation Plan and the development of new water allocation and management policies for the region. The framework is provided in Appendix A.

The overall goal of the review and any subsequent water allocation planning process is for '*Sustainable water consumption in the Northern Adelaide Plains*'. To assist in achieving this goal, a set of key outcomes for the review (and subsequent planning process) were agreed upon, these are that:

- the Northern Adelaide and Barossa Catchment Water Management Board understands the water users and their water allocation needs;
- water users that own and understand the water allocation process;
- a Water Allocation Plan and policy instruments that provide for sustainable water use and land use; and
- water users that actively implement the Water Allocation Plan.

Each outcome has a series of strategies and actions that form the basis of the strategic planning framework.

The Board commenced the review of the Water Allocation Plan for the Northern Adelaide Plains by listening to water users in the region to develop an understanding of their perceptions of the strengths, achievements and local experiences of the current Water Allocation Plan. In addition, consultation has been undertaken with technical experts and those responsible for the administration of the current plan.

2. Methodology for Interviews with Key Stakeholders

The community of the Northern Adelaide Plains is culturally diverse. For a number of water users, English is not their first language and therefore participation in complex discussions on water allocation in an English language forum can be difficult. In order to engage these users, specifically members of the large Vietnamese and Cambodian community within the Northern Adelaide Plains, a targeted consultation approach was used. In addition to the targeted approach with the Vietnamese and Cambodian communities, the Board used a variety of methods to liaise with other water users, including visiting door-to-door, talking to members of different organisations, talking to decision makers and advertising in the Virginia Horticultural Centre Newsletter.

2.1 The Process for Involving the Vietnamese and Cambodian Communities

The Catchment Water Management Board is keen to ensure that the Northern Adelaide Plains Vietnamese, Cambodian and other language groups understand and participate actively in the water allocation planning process. Accordingly, two open meetings were held at the Virginia Horticulture Centre, Virginia on 16 December 2003. These meetings were specifically aimed at providing information to Vietnamese and Cambodian growers. The involvement of members of the Vietnamese and Cambodian communities was seen as critical from the outset to ensure that these communities had the knowledge and tools to be able to actively participate in the review of the Water Allocation Plan and to ensure that they are active participants in future water allocation planning.

The community was invited to participate in the open meetings by:

- placing advertisements in Vietnamese newspapers: *Adelaide Tuan Bao* and *Nam Uc Tuan Bao*;
- displaying announcements of the meetings in central places such as the Virginia Horticultural Centre and local restaurants;
- making copies of invitations available at the Virginia Horticultural Centre;
- mailing invitations to licensed water users, which included copies of the current water allocation plan in Vietnamese and English;
- notifying licensed persons by phone of the open meetings; and
- meeting with the Vietnamese Farmers Association prior to the open meetings to inform them of the objectives and agenda for the meetings.

2.2 The Open Meetings

The open meetings were focussed on three core themes, those being to:

- provide background knowledge of the current Water Allocation Plan;
- listen to and understand participants perceptions of the strengths, achievement and local experiences of the current plan; and
- listen to and understand ways in which participants could be effectively involved in the review of the current plan and explore the need to amend the plan or to develop a new Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area.

2.2.1 Format of the Open Meetings

The open meetings commenced with Kym Good, Chief Executive Officer of the Board, welcoming all participants. The agenda items for the open meetings were introduced to ensure everyone understood the tasks ahead.

The presentation to the community included an outline of the aquifers (including T1, T2 and the quaternary aquifers), a description of the transfer criteria and an outline of salinity monitoring programs and an outline of the water levy. Following the presentation the group was divided into small groups for further discussion.

Detailed background of the water allocation plan was presented to participants in small groups to encourage easier information sharing.

2.3 Other Meetings

In addition to the open meetings a series of individual meetings were held with licensed water users. At the start of each meeting the review process was outlined. It was clearly stated that the Board has an open agenda and did not want to cut water allocations, and at this stage are just gathering information on the strengths, achievement and local experiences of the current Water Allocation Plan.

3. Outcomes of Consultation

A number of issues were raised by this initial consultation on the strengths and weaknesses of the current Water Allocation Plan. Collectively these issues are significant and warrant further investigation and the development of a new water allocation plan for the Northern Adelaide Plains. Comments from the community have been broadly summarised under relevant headings in the following sections.

3.1 Understanding of the Water Resource

The current Water Allocation Plan provides a broad summary of the Northern Adelaide Plains Prescribed Wells Area, including a description of the Quaternary and Tertiary Aquifer Systems. The extent of the Northern Adelaide Plains Prescribed Wells Area is shown in Appendix B. The current plan does not include the Kangaroo Flat area, which is currently the subject of a notice of restriction and a notice of intent to prescribe the groundwater resources pursuant to the *Water Resources Act 1997*. This area will be included in any amended or new Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area.

The following key issues were highlighted in relation to the growers understanding of the prescribed water resource:

- There is a lack of understanding of what water resources are covered by the Water Allocation Plan. Further detail of this, in particular on the relationship with imported Bolivar reclaimed water, needs to be provided in future water planning processes.
- The community requires clarification on the penalties and costs associated with overusing their allocation. In addition they want clarification on the potential impacts of continual overuse.
- There is a perception that the Penrice operation is resulting in a significant drawdown of the aquifer, and that this drawdown is affecting growers. Clarification on the potential impacts of Penrice water use needs to be provided to growers, as well as an outline of why Penrice water use is outside the scope of the Water Allocation Plan.
- The community requires further clarification on T1 and T2 and any interactions between the aquifers. The community also wants to understand if either aquifer is in danger of collapsing.

3.2 Water Availability and Water Quality

Water availability and water quality are key issues in the community. The following specific issues relating to water availability and water quality were raised:

- The community noted that some water users have adopted efficient irrigation practices to ensure that their businesses return a high dollar value per ML water used.
- The community noted that over irrigating is causing waterlogging in some areas.
- Growers noted that salinity has increased over the last 10 years.
- Leaky wells are a major concern among growers. This is of particular concern for property owners with neighbours who have leaky wells that they are not backfilling.
- There is concern over the perceived level of draw down caused by the Penrice operations. There is a clear need for further information to be provided to the community regarding the impacts of the Penrice operation on the aquifer and the role of the water allocation plan in relation to their water use.
- Growers have indicated that they are unable to expand their operations due to the lack of access to water (either groundwater or Bolivar reclaimed water). Access to water is difficult because:
 - water is expensive;
 - growers are unable to transfer groundwater into the T1 and T2 cone of depression;
 - it is difficult to amalgamate licences in different zones; and

- licence holders fear transferring water on a temporary basis in case their licence is taken from them or cut in the future.
- Growers feel that investigations into the capture and use of water (e.g. stormwater) have not been sufficient, and that there are opportunities for better use of this water resource.
- Several growers expressed concern that the groundwater resource needed to be managed as a whole, including the Kangaroo Flat area, which was experiencing increased pressure on the resource.

3.3 Water Allocation Criteria

The current Water Allocation Plan allocates water by volume, with a maximum allocation for all aquifers of 26,500 ML. Most water is allocated from the two Tertiary aquifers, T1 and T2.

The way in which water is allocated is generally poorly understood by the community. The following issues were raised specifically in relation to water allocation criteria:

- Growers do not understand the reasons for previous water allocation cuts and are nervous of future allocation cuts, particularly if they are not using their full allocation. This is resulting in growers pumping their full allocation (even if it is not really needed) to ensure that their allocation is not cut.
- Growers indicated that tampering with meters is occurring in the region.
- Growers are concerned that they have no safety net to draw on when they exceed their allocation. To combat this they are interested in some form of rollover allocation, whereby if they have not used their full allocation in any given year, they are able to accumulate a percentage of the unused water for a set time period and then use the accumulated water when needed. For example, each year a grower can accumulate 5% of their allocation over a set period (say 3 years), which would give them potentially 115% of their allocation in the third year. Growers believe this sort of system would give them more flexibility in their business.
- Growers consider water licence amalgamations (if they fulfil the transfer criteria) to be useful, particularly as up to 80% of growers have blocks of land throughout the area and need to access water from different properties. Growers believe that amalgamations give them the flexibility to alternate cropping from season to season on different blocks of land.

3.4 Transfer Criteria

The current water allocation plan allows for the transfer of water within an aquifer, but not between aquifers. Any potential transfer must not result in a negative impact on the water resource or existing users.

The following issues relating to the transfer of water were identified during the consultation:

- Growers believe that the ability to temporarily transfer water is essential.
- Growers indicated that it is often difficult to obtain small volumes of water through transfers, as most sellers only want to sell large volumes of water.
- The strict transfer criteria have resulted in making it difficult to procure water, particularly for those within the cone of depression. This has resulted with tampering of meters in the past.
- The time lag between submitting a transfer application and receiving a reply is too long.
- Growers believe the application process for transferring water is complex and often poorly understood.
- Growers feel that the 20% reduction in allocation volume applied on transfers should be exempt for transfers amongst family members.

3.5 Importation of Water

Imported water (from Bolivar) is used in the Northern Adelaide Plains area. Importation of water is considered in the current water allocation plan under Section 7.5, which relates to permits for water affecting activities.

Growers have expressed a number of concerns in relation to the Bolivar scheme. These include:

- water being 'dumped' in winter months (when it is still produced but not being used for irrigation);
- ensuring that the water is of an acceptable quality for irrigation - there is particular concern about the salinity of the water;
- the quantity of water available and the price of the water;
- control of waterlogging;
- the complex nature of the application process; and
- growers question whether the water is fit for human consumption.

In addition growers indicated that a number of people fear selling their groundwater allocations and becoming solely reliant on the Bolivar water.

Growers also feel that the links between the use of Bolivar water, and groundwater extraction rates needs to be better understood, and would like feedback on whether or not the use of Bolivar water has improved the condition of the groundwater resource.

3.6 Aquifer Storage and Recovery

The current water allocation plan provides objectives and principles for recharged water. The principles are broad, which has led to uncertainty about what can and cannot be permitted under this section of the Water Allocation Plan.

The current plan does not distinguish between ASR schemes for private benefit and schemes, perhaps sponsored by State and/or local government, that require significant capital investment and provide public benefit through water quality improvement, flood mitigation, water reuse and public amenity etc. Further investigations are required into how these schemes can be effectively managed to provide public good and appropriate water resource management outcomes at different scales of operation.

3.7 Monitoring

Broad monitoring requirements are outlined in the current water allocation plan. Monitoring includes regional level monitoring through a series of observation bores as well as property level reporting through annual irrigation reports.

Some discussion regarding ongoing monitoring requirements was undertaken with the community. Generally growers felt that they were not provided with adequate feedback on groundwater trends. They felt that the provision of information is one way, that is, they provide information to the Department of Water, Land and Biodiversity Conservation (DWLBC), while DWLBC does not provide information back to the water users.

3.8 Ongoing Involvement in Water Allocation Planning

The initial consultation process with growers in the Northern Adelaide Plains has highlighted a number of factors to consider in the ongoing consultation with and involvement of growers in the development of new a Water Allocation Plan. The following key factors will be considered when finalising the consultation program for various stages of the water allocation planning process:

- Open meetings are important to ensure everyone has a say, but smaller focus meetings need to be held to ensure that ideas are effectively discussed.
- The process used by the Board needs to acknowledge that growers are busy.
- Many growers in the Northern Adelaide Plains do not have a good understanding of the Water Allocation Plan. The review process must be structured in such a way to ensure that the process leads to growers having a better knowledge of the Water Allocation Plan, to ensure that they own and understand it.
- Information needs to be presented clearly and concisely.
- It is critical that a few dominant growers do not dictate what issues are, and are not, considered in water allocation planning and management. Future planning needs to continue to be inclusive and ensure that all growers have a meaningful say.
- If all growers are brought together in one meeting, preparatory meetings may be needed with the Vietnamese and Cambodian communities.

4. Recommendations

Given the large number of issues raised during the Water Allocation Plan review process and the incorporation of the Kangaroo Flat area into the Northern Adelaide Plains Prescribed Wells Area, it is recommended that a new Water Allocation Plan be developed for the Northern Adelaide Plains.

It is further recommended that the water allocation planning process includes an ongoing review of the current Water Allocation Plan, and in particular further investigations into the issues raised by this initial review.

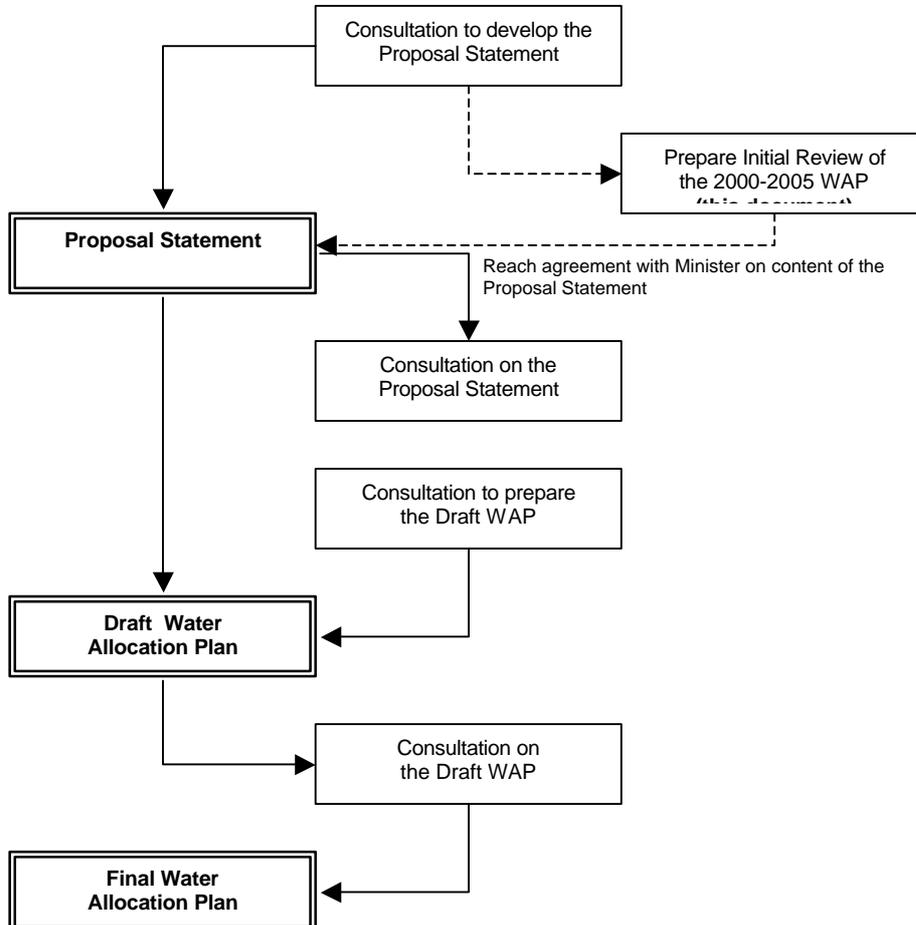
The development of a new Water Allocation Plan will need to be undertaken in accordance with the planning process described in *Water Resources Act 1997*.

The Board is in the process of preparing a Proposal Statement for the new Water Allocation Plan for the Northern Adelaide Plains Prescribed Wells Area (including the Kangaroo Flat Restricted Area), and once this is completed will proceed through the process outlined in Diagram 1, in accordance with the Strategic Planning Framework presented in Appendix A.

Development of the new Water Allocation Plan will involve further studies that are required to properly advise the planning process and extensive consultation with the local community.

The issues identified in this review will be used to inform the development of the draft Proposal Statement for the new Water Allocation Plan.

Diagram 1 Process to revise the Water Allocation Plan

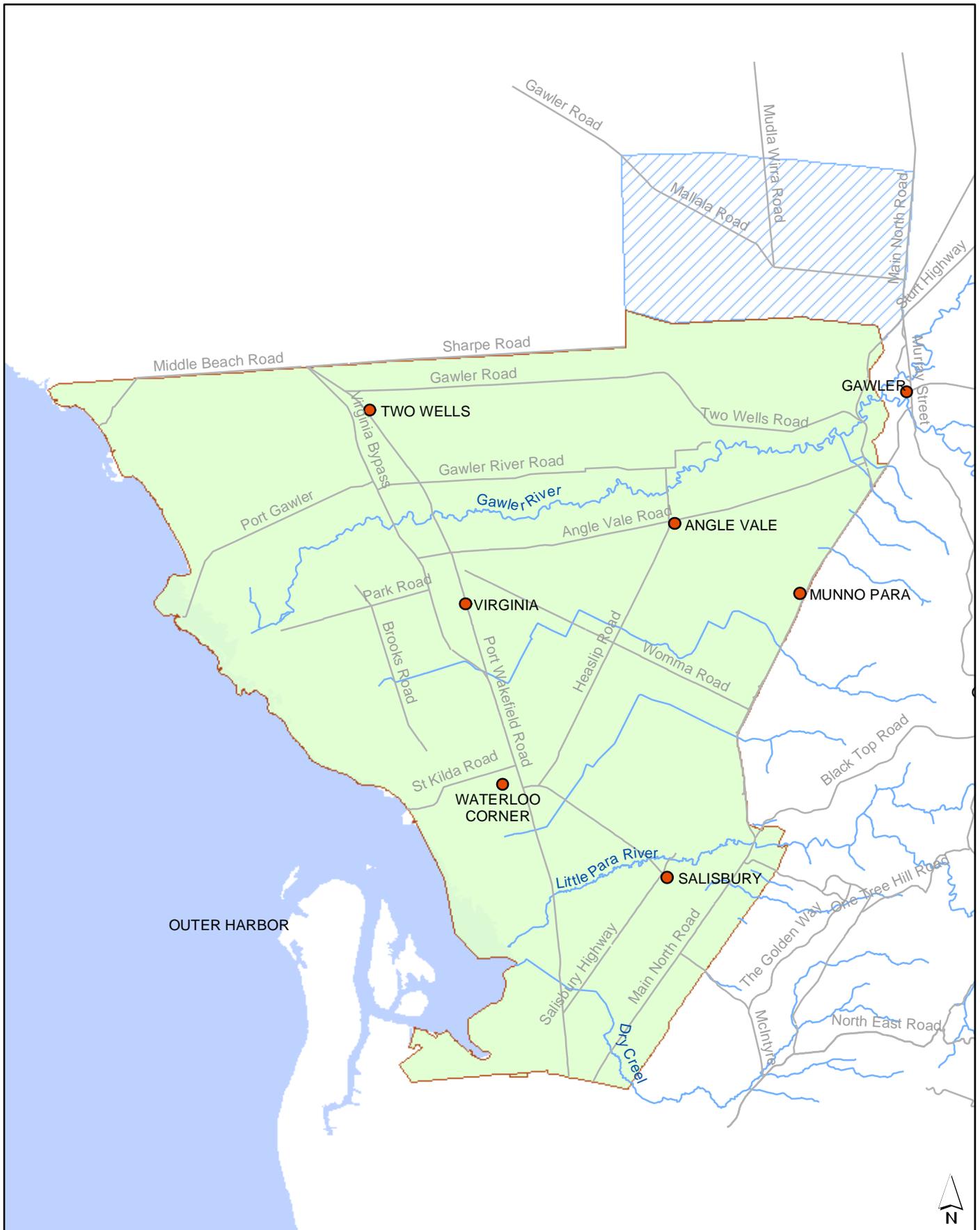


Appendix A – Strategic Planning Framework for the Northern Adelaide Plains Water Allocation Plan

GOAL: Sustainable water consumption in Northern Adelaide Plains & Barossa

OUTCOME: THE NAB CWMB UNDERSTANDS THE COMMUNITY AND THEIR WATER ALLOCATION NEEDS	OUTCOME: THE COMMUNITY OWNS AND UNDERSTANDS THE WATER ALLOCATION PROCESS	OUTCOME: WAP AND POLICY INSTRUMENTS THAT PROVIDE FOR SUSTAINABLE WATER AND LAND USE	OUTCOME: COMMUNITY ACTIVELY IMPLEMENT THE WATER ALLOCATION PLAN
<p>Strategy A: Identify community groups</p> <ul style="list-style-type: none"> A1. Review and evaluate the WAP 2000-05 works and outcomes A2. Source reports, knowledge and other NAB CWMB learning A3. Establish database of water use and allocation A4. Map community and predict concerns A5. Review lessons, inputs, outputs and outcomes of other CWMBs A6. Identify policy makers, administrators and technical players 	<p>Strategy D: Assess the technical foundation of WAP</p> <ul style="list-style-type: none"> D1. Feedback from the WAP 2000-05 property level monitoring D2. Technical and management assessment of WAP 2000-05 by experts consistent with WRA (1997) & INRM Bill (2003) D3. Review the status, health and trends in water resource availability and use by community groups with experts and the NAB CWMB team D4. Review other relevant management plans & Acts D5. Confirm resource availability and clarify roles and responsibilities with NAB Board, DWLBC, industry and others 	<p>Strategy G: Development of Draft WAP</p> <ul style="list-style-type: none"> G1. Draft WAP 2005-2010 consistent with agreed framework set by policy makers, administrators and NAB CWMB (see action C4 & C5). G2. Draft WAP 2005-2010 consistent with the State Water Plan and satisfies the requirements of the WRA (1997), INRM Bill (2003) and community groups G3. Launch and distribute the draft WAP G4. Consult community groups, Minister, Councils and other agencies on the Draft WAP 2005-2010 G5. Summarise comments and submit a report to the NAB CWMB G6. Make amendments to the WAP 2005-2010 G7. Publish final WAP G8. Distribute final WAP to water users and agencies 	<p>Strategy J: Build community confidence to implement</p> <ul style="list-style-type: none"> J1. Prepare action frameworks with industry/sector groups to facilitate implementation J2. Demonstrate important options and best practice management systems J2. Field days at demonstration sites J3. Promote best practice management systems with community groups
<p>Strategy B: Identify community groups needs</p> <ul style="list-style-type: none"> B1. Identify cultural and socio-economic issues B2. Meet with key organizations, community groups, technical experts, policy makers and administrators B3. Time trend analysis and gap analysis with community groups B4. Identify tools to gain community groups' buy in B5. Develop consultation process to satisfy the requirements of the WRA (1997) 	<p>Strategy E: Build awareness, capacity and ownership</p> <ul style="list-style-type: none"> E1. Identify and conduct investigations with community groups to provide greater understanding of water availability and use E2. Produce any communication tools required E3. Undertake field days, presentations, or messages via existing staff as appropriate 	<p>Strategy H: Develop and confirm implementation strategies</p> <ul style="list-style-type: none"> H1. Review existing policy framework for water use and management in NAB H2. SWOT to identify gaps with community groups H3. Prepare strategic planning framework with community groups H4. Prepare a strategic document for sustainable water and land management 	<p>Strategy K: Participatory Monitoring and Evaluation (PM&E)</p> <ul style="list-style-type: none"> K1. Measure indicators K2. Analyse and interpret data K3. Report lessons learned to community groups K4. Use lessons learned for adaptive management and continuous improvement
<p>Strategy C: Develop draft proposal statement that identifies overlapping needs</p> <ul style="list-style-type: none"> C1. Prepare draft proposal statement and consultation process C3. Form sectoral representative groups C4. Link policy makers and administrators, and technical experts to draft proposal statement C5. Identify overlapping needs between policy makers and administrators, technical experts and draft proposal statement C6. Identify overlapping needs between community groups and draft proposal statement 	<p>Strategy F: Consult and develop the WAP options</p> <ul style="list-style-type: none"> F1. Scenario and vision building with the community to develop the basis for the WAP 2005-10 F2. Develop WAP options within the framework of the WRA (1997) & INRM Bill (2003) and prepare working papers F3. Find consensus on the balance between water use and water availability F4. Draw up agreed option and have reviewed by community groups and other agencies 	<p>Strategy I: Develop indicators to monitor and evaluate WAP 2005-2010</p> <ul style="list-style-type: none"> I1. Evaluate current monitoring and evaluation programs I2. Design participatory monitoring and evaluation model I3. Develop indicators to measure outcomes and outputs with representative community groups I4. Confirm indicators with a wider group of community groups and NAB CWMB I5. Monitor and evaluate indicators through implementation I6. Report lessons learned to community groups 	

Appendix B – Map of the Northern Adelaide Plains Proclaimed Wells Area (including the Kangaroo Flat Restricted Area)



Legend

-  Kangaroo Flat Moratorium
-  Northern Adelaide Plains Prescribed Wells



**NORTHERN ADELAIDE PLAINS
PREScribed WELLS AREA**

**AND KANGAROO FLAT
MORATORIUM AREA**

LOCATION PLAN