

# Gingin Water Group Inc.

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*Submission to GINGIN GROUNDWATER ALLOCATION PLAN*



Gingin Water Group Inc.

[www.ginginwater.org.au](http://www.ginginwater.org.au)





## Executive Summary

Gingin Water Group Inc. (GWG) commends the Gingin Groundwater Allocation Plan-for Public Comment.

Recommended amendments to the plan include:

- Section 1;
  - GWG supports the purpose of the Plan as outlined and requests that DOW makes publicly available the annual review and evaluation process.
  - GWG suggests the word Cullalla be used to replace Cowalla where ever it is used in the Plan in relation to the Leederville-Parmelia resource.
  - GWG requests DOW allocate resources necessary to determine actual Social and Environmental indices valued by the stakeholders.
  - The 2020 timeframe to replace this Plan is too long in the light of the CSIRO predictions for climate change as they relate to Gingin.
- Section 2;
  - GWG agrees that the outcomes and water resource objectives adequately address the majority of the aspirations of the local community but considers additional actions are required.
  - GWG requests a groundwater/surface water interaction study along the Moore River be conducted as a priority of the Plan.
  - GWG requests that urgent action is required to identify, assess and prioritise the region's GDEs.
  - GWG requests that community and education programs be built into the Plan and an ongoing commitment to disseminating public information be resourced to support Action 6 (Table 10).
  - Developing protocols that allow extraction licence applications be considered across all three allocation plans to protect the surface water flow of rivers and brooks in the region
  - Installing the additional exploration bores in the Mirabooka aquifer; south coastal Leederville aquifer and along the Moore River considered is a high priority
  - Adequate resources are allocated to the evaluation processes described in the Plan so that the timeline is met and that the evaluation is presented to the community in a timely and effective means.
- Section 3:



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- GWG suggests that it is preferable to include the water availability Y/N statement of the Summary Table as Table 2a with the following; the Allocation Limit , the Licensable Component and the Licensed Entitlements in existence at a set date .( similar to table 1 in the *Gingin Surface Water Allocation Plan: Evaluation Statement 2011/2012.*)
- The Gingin groundwater allocation region has a very complex hydrogeology and the GWG considers the pursuit of means to better quantify these resources a high priority. In the interim GWG recommends that conservative allocation limits, supported by the precautionary principle, underpin groundwater extraction licenses and ecological water requirements.
- Section 4:
  - GWG believes that the level of discretion described in Table 4 will undermine community confidence in the process and recommends DoW use a great level of prescription and transparency in its decision making.
  - As these projects (mining) approach implementation the community will need to be assured that local water resources are not negatively impacted. To achieve that level of assurance, GWG recommends that DoW insists that extensive bore monitoring fields to be installed as part of the project investigations
- Section 5.
  - GWG recommends DOW allocate an appropriate level of funding to support the various studies previously recommended in this submission and strongly supports evidence based studies that facilitate effective management of the water resource.
- Section 6.
  - GWG recommends the Table (2a) suggested in Section 3, be included as part of published reviews and this is listed as an action in Table 10.

GWG looks forward to seeing timely and regular information on implementation of the Plan being made available to the local community through newsletters, local forums and evaluation statements.



## Background

The Gingin Water Group Inc. (GWG) was formed in 2011 in response to increasing community concerns that current water use may not be sustainable. In particular, recent reports raised concerns on water quantity and quality. Coupled with these concerns were the associated impacts on environmental, economic and social values of water resources in the greater Gingin area.

GWG now has 50 registered family members and the management committee has great diversity, representing the broad water use stakeholders of the region. It has representation from regional NRM groups, NACC and Perth, the Moore Catchment Council and the Gingin Shire.

The initial priority for the GWG was to prepare and lodge a submission to the Gingin Groundwater Allocation Plan (the Plan). This submission has been informed by local knowledge and published information on Gingin groundwater resources with the purpose of promoting sustainable water usage in the Gingin area.

The GWG acknowledges the contributions to its knowledge base from the Department of Water (DOW) staff and from community contributions to public forums and published media articles on local water issues.

## Overview of Gingin Groundwater Allocation Plan

GWG is pleased to see that the Plan makes constant reference to the importance to the community of the surface water resources and the need to allocate sufficient groundwater resources to ensure their continued good health. The summary states *"This plan will help to protect groundwater dependent ecosystems and water courses within the plan area"*

In particular, GWG acknowledges;

- o The many occasions that the DOW has attended meetings to provide support and information to the committee and receive its input.
- o That GWG was kept well informed throughout the period the Plan was being developed, and that
- o That the local input it was providing was being listened to and to the extent possible, acted upon.

The resultant Plan appears to reflect this in a variety of areas.



However, it is doubtful that the local community's primary concern at the reduced flow of their brooks and streams will be adequately addressed by the Plan. This issue appears to have been clouded by the jurisdictional areas of the Plan, the Gingin Surface Water Plan and the Gnangara Groundwater Plan. It will be critical that licence applications be considered across all three allocation plan to protect the surface water flow of rivers and brooks in the region.

## Particular issues

### 1.1 The Purpose of the Plan

The Plan connects the importance of satisfying the need to maintain reliability of current groundwater entitlements yet reduce risks to the groundwater dependent environment to the future effects of climate change.

These fundamentals are in accord with the aspirations of the GWG.

The need to better understand the Mirrabooka aquifer and its acknowledged importance to base flow into the Gingin Brook and Moore River is commendable. The stated aim to allocate 80% of the Mirrabooka resource to the environment is supported as are the associated safeguards to be attached to any new licences from this source.

GWG supports the purpose of the Plan as outlined in 1.1 and encourages the DOW to manage the risks outlined by using the allocation limits, licensing rules and monitoring program outlined in a way which is transparent to the local community.

This can be achieved through the evaluation process.

Table 8 indicates the monitoring process to be reviewed annually to compare performance indicators with resource objectives.

GWG requests that the annual reviews are publicly available.

### 1.3 Water Resources covered (re Leederville-Parmelia resource)

GWG suggests the choice of Cowalla for the Leederville-Parmelia region may cause ambiguity. Cullalla is a road and locality name positioned where Cowalla is written on figure 4 (page 10) of the Plan.

GWG suggests the word Cullalla be used to replace Cowalla where ever it is used in the Plan in relation to the Leederville-Parmelia resource.

The trading zones introduced to guide appropriate water trading within this resource seem a sensible approach.



## 1.5 Stakeholder interests

Stakeholder interests were correctly identified as stated and it was again pleasing to see the acceptance of the significance to the community of the Gingin Brook and Moore River. GWG requests DOW to match this statement with the onground investment necessary to determine actual Social and Environmental indicies to these assets.

## 1.6 Plan Timeframe.

Table 10 sets the timeline on the actions to implement the Gingin Groundwater Plan. The Plan acknowledges the changing climate and the range of effects this could possibly have for our region as described specifically by the CSIRO (CSIRO 2009(a)) in a timeframe which is predicted to be influential by 2020. GWG suggests that the timelines to action must be adhered to and the data collected made publicly available.

The evaluation statement is shown as due "one year after the plan is finalised and then as required".

GWG submits, under the circumstances described above, the evaluation be made every three years on the data viewed and published annually.

Action 6 is particularly important in the Gingin region to reflect the interconnection of groundwater to surface water and the importance of connecting the resources immediately south of the Gingin Brook and Moore River which lie in the proclaimed groundwater of Gingin area but are addressed in the Gnanagara Groundwater Allocation Plan.

The 2020 timeframe to replace this Plan is too long in the light of the CSIRO predictions for climate change as they relate to Gingin. The CSIRO states: *"significant gaps between water yields and demands are expected to occur by about 2020 in areas where surface water resources are used for irrigation (already reached for some surface water licensees in Gingin), significant gaps between ground water yields and demands are expected to occur by about 2020 for areas around Perth"*

The greater Gingin area is acknowledged to be sensitive to water balance changes, with many resource subareas close to or over allocated. Deliberate actions, specifically timed, must be taken to protect the Gingin stakeholders and the Gingin natural environment.

GWG submits that the time lines stated in table 10 to measure the actions need to be strictly adhered to and the annually collected data made publicly available.



## 2. What the Plan will achieve

GWG agrees that the outcomes and water resource objectives adequately address the majority of the aspirations of the local community as follows;

- o Objective (a) in 2.2 connects the concepts of climate change and sustainable use of the water resource.
- o Objective (b) states that the environmental values of groundwater dependent ecosystems (GDE) and surface water are fundamental to the Plan.
- o Objective (c) recognises the importance of monitoring freshwater supplies to the significant horticultural industries in the western part of the Gingin region.

GWG suggests that more evidence is required to understand the water requirements of the region's GDEs, particularly those associated with the Gingin Brook and Moore River. GWG requests a groundwater/surface water interaction study along the Moore River be conducted as a priority of the Plan.

Further, GWG recognises that urgent action is required to identify, assess and prioritise the region's GDEs. From this action, management strategies need to be developed to protect these assets.

The main strategies to meet the water resource objectives outlined in the Plan are appropriate but must be resourced and results made publicly available.

GWG requests that community and education programs be built into the Plan and an ongoing commitment to disseminating public information be resourced to support Action 6 (Table 10).

## 3. Water allocation limits.

GWG considers that there is a disjunct with the information supplied. Table 2 lists the Allocation Limits for the Gingin Plan area but water availability is described in the Summary (p vii).

GWG suggests that it is preferable to include the water availability Y/N statement of the Summary Table as Table 2a with the following; the Allocation Limit, the Licensable Component and the Licensed Entitlements in existence at a set date. (similar to table 1 in the *Gingin Surface Water Allocation Plan: Evaluation Statement 2011/2012*.)

Such a table will make it clear how close to maximum allocation each resource is and serve as a base line for the community to easily assess the effectiveness of the Plan in moving to a more sustainable use pattern as influencing factors change into future.



The local community has indicated to GWG that the impact of climate change is of great interest and they are keen to see that the annual monitoring and evaluation program as stated is implemented and reported against the allocation limits for each resource.

GWG is pleased that the Plan sets significant allocations from aquifers for supporting environmental and social values dependent upon ground water, supporting base flow into the Gingin Brook and Moore River and to maintaining the seawater interface. Ongoing efforts to improve actual physical assessment of these features are encouraged.

The reserved amount of recharge indicated in table 3 is understood to be a 'modelled' estimate and GWG is concerned about the ability of DOW to accurately assess the resource available in each of the 35 subareas identified.

The community has indicated to GWG that it is concerned that eight resources are stated as over allocated. Further, the level of over allocation is not published and it is not stated how close other subareas are to full allocation.

GWG supports all efforts being made to better understand the characteristics of each resource. The Gingin groundwater allocation region has a very complex hydrogeology and the GWG considers the pursuit of means to better quantify these resources a high priority. In the interim GWG recommends that conservative allocation limits, supported by the precautionary principle, underpin groundwater extraction licenses and ecological water requirements.

In particular, GWG considers that there is an urgent need to better understand the characteristics of the Mirrabooka aquifer. This resource is particularly vulnerable considering the increased industrialisation of much of the sub-area it serves as well as its acknowledged role in underpinning very important environmental assets of its sub-area.

The Plan acknowledges the importance of the Leederville-Parmelia and Leederville aquifers to the recharging of the Gingin Brook and Moore River. However, considering the many licensed and unlicensed bores in this sub-region, GWG considers it important that better understanding of the interaction between aquifers and surface water plus how it supports the social and environmental values of that part of the region be achieved.



#### **4. Water allocation and licensing approach.**

GWG acknowledges the role of the various legislative guidelines that DoW must have regard to in preparing allocation plans.

Notwithstanding that the issuing of licenses is a private matter between the Department and the licensee, the community needs to have a level of transparency in the process that is designed to produce the Plan's listed outcomes.

Table 4 lists the Licensing policies specific to the Gingin Plan area outlining the Policy details that will guide the DOW decision making. The use of descriptors in the Table 4 indicates an uncomfortable level of discretion able to be used by DoW. GWG believes that this level of discretion will undermine community confidence in the process and recommends DoW use a great level of prescription and transparency in its decision making.

DOW acknowledges the expected "*significant and rapid urban growth in the next 20 years...*" (4.6). GWG is pleased that the Plan also accepts the science of a changing climate and has incorporated actions to measure the changes as they influence the water balance in our region. This also allows the adjustments to allocation limits and licensed extractions in order to balance aquifer use to its recharge characteristics to achieve a sustainable water supply in 20 years and beyond.

GWG wishes to emphasise to DoW the expected rapid growth in the industrialisation (mining) in the region, all of which will have an impact on water resources that will need to be reviewed and managed.

Red Gully is in the Mirrabooka /Parmelia-Leederville (Zone 2) /Yarragadee aquifer where development and production permits have been issued for conventional gas and exploration licences for unconventional gas are expected to be issued in the same area. Just south of this, feasibility planning for a mineral sands project is well advanced in the Boonoonaring region.

Additionally, feasibility for a major regional waste disposal facility is being developed at Fernview on the Mirrabooka sands. This area contributes to the Gingin and Boonoonaring Brooks and potentially the superficial aquifer which supplies water to major horticultural licenses on Brand highway.

As these projects approach implementation the community will need to be assured that local water resources are not negatively impacted. To achieve that level of assurance, GWG recommends that DoW insists that extensive bore monitoring fields are installed as part of the project investigations.



## **5. Monitoring program for the Gingin groundwater plan area.**

GWG is pleased that, despite the significant number of monitoring bores shown at table 7 and figure 8, the Plan acknowledges the need to collect new data to better understand the hydrogeology of parts of the region which are not well predicted by the PRAMS model.

GWG considers the addition monitoring to be a high priority and considers it critical that funds are allocated to further these understandings. The Plan acknowledges the region has complex water balance issues with many resources close to or overallocated and future demand dynamics predicted to rapidly increase pressure on these resources.

## **6. Implementing and evaluating the plan**

GWG recommends the Table (2a) suggested in Section 3, be included as part of published reviews and this is listed as an action in Table 10.



## Summary

Gingin Water Group Inc. commends the *Gingin Groundwater Allocation Plan for Public Comment* and appreciates the efforts of DoW in its collaboration with the Gingin community in the preparation of the Plan.

This submission makes several suggestions which GWG considers will help to improve the community's faith in the processes described in the Allocation Plan without compromising the need for privacy.

The recommendations centre on;

- Additional monitoring bores to develop a greater understanding of the groundwater resource dynamics
- Identification of significant GDEs
- An elevated priority to social and ecological water requirements
- A transparent and robust reporting system that keeps the community fully informed of water resource issues in the region.

GWG looks forward to seeing timely and regular information on implementation of the Plan being made available to the local community through newsletters, local forums and evaluation statements.

David Rickson

President

Gingin Water Group Inc

5<sup>th</sup> December 2013

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