



Gingin Water Group Inc.

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*Submission to SECURING WESTERN AUSTRALIA'S WATER FUTURE*

*REFORMING WATER RESOURCE MANAGEMENT*



## Executive Summary

Gingin Water Group Inc. (GWG) commends the Position paper – Reforming Water Resource Management.

Comments and concerns are summarised below:

- GWG would urge any law reform designed to guarantee sustainable use of water be capable of calculating, monitoring and adjusting water use on a LOCAL level based on accurate and transparent scientific evidence, biased to the cautionary principle.
- GWG urges the statutory involvement of relevant Government departments (beyond just the Department responsible for water allocation) to ensure that the management process is equitable to all stakeholders, basic water users and the environment.
- For the changes to be successful there must be sufficient political and legal obligation to adequately fund the accurate and ongoing assessment of the environmental and social water requirements at a local level.
- GWG strongly supports the engagement of local advisory groups and local contact with all of the regional stakeholders in the development of local allocation limits and plans.
- GWG urges that the legislation must provide sufficient strength and funds to allow the resource managers to assess needs of the environment, non-commercial farm water supplies and the general community.
- The law changes must adequately protect the resources of the upper levels of the superficial aquifers and surface water assets, which often underpin the social, environmental and unlicensed agricultural water requirements of the local community.
- GWG supports the removal of inconsistencies in the application of Basic Water rights but urges that the supply of water for non-commercial purposes including on-farm and other water supplies for domestic, stock, garden and small enterprise purposes is an important requirement and must be maintained and strengthened.
- Legislating the allocation of water purely on market forces may alter the balance in a local community adversely over time.



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- GWG suggests a mechanism where, if necessary in the future, additional small allocations are allowed in a consumptive pool for the local social benefit, even if that pool is fully allocated. The increased take would be accommodated by an across the board allocation reduction through an allocation announcement.
  - The basis upon which the allocation limits will be set MUST be well researched. This will cost money the supply of which must be politically guaranteed.
  - The process of identifying the environmental water requirement is expensive and the management authority must be adequately funded to achieve this.
  - GWG supports the intention to regulate for longer tenure of licences, to simplify licence assessment and administration, and to simplify the mechanisms for trading and transfer.
  - GWG supports the plan to develop a mechanism to vary the take in relation to significant changes in seasonal conditions; however, this mechanism must be used cautiously to avoid introducing increased uncertainty into the system.
  - GWG supports the proposals to make the monitoring process more rigorous and transparent. It also supports the wider application of metering.

The suggested research and monitoring of aspects such as Drainage, Injections, and Plantation Interception must be implemented and adequately funded.



## 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 and visible evidence is obvious and alarming. Coupled with these concerns were the associated impacts on environmental, economic and social values of water resources in the greater Gingin area.

GWG has involved hundreds of community members in consultations and now has 50 registered family members. 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 the Water Reform Position Paper

GWG is in general agreement with the key features of the water reform paper as outlined in figure 2 of the document.

The policy drivers are indeed as indicated. The Gingin region is already experiencing the effects of a drying climate and would appear to be headed for the “*most severe up to 20 per cent by 2030 ...*” scenario described by the CSIRO. GWG would urge any law reform designed to guarantee sustainable use of water be capable of



calculating, monitoring and adjusting water use on a LOCAL level based on accurate and transparent scientific evidence, biased to the precautionary principle.

Population growth and the expanding economy is occurring in our region, but more importantly these factors are occurring to an even greater extent on our immediate doorstep (the metropolitan area) which greatly exacerbates our water resource problem and makes it more important that water law reform can serve to manage our local issues for generations into the future.

New and emerging management challenges are not only occurring in the Pilbara. Industrialisation in the Gingin region is destined to bring the major de-watering process of major mineral sands extraction as well as the inevitable use of hydraulic fracturing if shale gas extraction is ever to become economically viable at Red Gully. Add a large regional landfill operation and maturing forestry plantations to the local Gingin situation and it is evident that any water law reform needs to involve a statutory mix of management agencies far broader than just the Department of Water.

Implicit in the combination of features summarised in figure 2 is that there will be sufficient political and legal obligation to adequately fund the accurate and ongoing assessment of the environmental and social water requirement, and that the allocation of that requirement, will be built into the proposed statutory water allocation limits and plans at our local level.

### **Changes to the Licensing Framework**

GWG acknowledges the legislative confusion and the need for change.

GWG also appreciates the wide range of debate that has preceded this position paper and agrees that the current position is well considered and generally acceptable.

GWG strongly supports the engagement of local advisory groups and local contact with all of the regional stakeholders; especially to ensure that sufficient attention is



made to the needs of groups, such as the regions pastoralists and graziers as well as lifestyle landholders and retirees, and of course the needs of the environment, in an area where the interests of intensive agricultural water users and industrialists will be strongly represented.

GWG agrees that in some cases a simplified system of licence application is desirable. However, in a region such as Gingin, where there is a complex mix of water issues with hydrogeological interactions not fully understood, the proposed licensing processes need to be fully transparent to ensure that if water assets are permanently removed from the ground upon which an actual recharge occurs, and licensed for extraction elsewhere in a subregion, then the managing authorities must guarantee sufficient funding to underpin the new laws with strong evidence-based decision making.

The proposals summarised in 2.4.3 which are intended to lead to greater confidence and security regarding access to water appear to imply a bias toward commercial licensees. GWG agrees and understands the need to encourage and improve the economic security of the modern and intensive use of the water resource. No mention is made however, of the non-commercial and environmental assessment processes.

Large individual and corporate licensees spend considerable amounts of money proving up their entitlement and water resource, which will be easier to do with a simplified risk assessment policy. This effort will lead to a longer and more secure entitlement to extract. It may involve the extinction of an entitlement to extract at another property in the local area if trading was part of the application.

GWG urges that the legislation must provide sufficient strength and funds to allow the resource managers to assess needs of the environment, the general community, stock-watering and non-commercial farm water supplies.

In a relatively small water plan region as Gingin the majority of landholders are unlikely to be water entitlement holders (for the purpose of trading and licensing) but



might be takers of unlicensed water via bores, soaks, dams and brooks. This water will invariably be taken from the shallowest, most easily accessible source.

These will be the water sources most vulnerable to the vagaries of seasonal fluctuation and climate change. These will also be the sources most likely to be affected by licenced abstraction under statutory allocation limits and plans.

Over time, the effects of legal and indeed sustainable water use in one part of a subregion, may influence these (surficial) water users over a wider area than current monitoring programs suggest, and in ways which, while solvable by deepening bores etc, may well be impracticable and unacceptable for a variety of reasons.

These proposed legislative changes appear to weaken the unlicensed “riparian” or “natural rights” water user’s traditional access to water in that they do not set out a process to understand and guarantee that individuals basic water need.

## **SEPARATION OF WATER RIGHTS**

What happens, over time (generations), in a drying climate, when the water access entitlement for a rural property is separated from that property and sold to another water consumer ?

The property itself may later be sold, but only with its natural water rights. No licence would be available for intensive extraction from that property even though suitable infrastructure and water may be present, having been used previously under the older licensing laws, maybe by a previous generation. How will the regulators and the public manage social implications of the separation of water rights from the land and its effect on rural land use and land values, for example?

As methods and technologies change over time it may emerge, particularly in a diverse hydrogeological region with over-allocation issues and a complex groundwater/surface water relationship and recharge characteristic, that the most suitable land is disconnected from the water resource resulting in a land use regime which is less than satisfactory.



The assumption that open market forces will prevail, and will result in the most satisfactory outcomes, may not allow for the existence of small or even large lots of land being farmed as a modest commercial enterprise or rural lifestyle. Collectively the small/medium rural enterprise may be crucial to a region's viability, or even the national wellbeing, but individually, may be less prosperous (and less deserving of adequate water rights?) than some larger enterprises.

Statutory water allocation limits and plans would seem to run the risk of separating some valuable land assets from their water resource which would prove uneconomic to reconnect for the purposes just described.

For example: a pastoralist separates and sells 25 hectares of rich farmland for his "superannuation". A retired (or other) family purchases the property for lifestyle, to grow a small organic orchard. The organic orchard may not be economically viable because modern intensive operations control the price of the water.

Two potential problems are foreseen. The local community would be deprived of the spin-off benefits of the smaller local industry and the urban region would be starved of an important source of local produce.

Will future water regulators accept such an example as inevitable? Or, will well considered legislation provide for modest, but essential and affordable, water availability within largely market driven rights of access to water?

There may be thousands of such examples across the state that could/might eventually illegally take water. The task of managing such extraction could simply prove too unwieldy for a manager (DOW) tasked with an equitable distribution of a dwindling resource based on an increasingly more accurate scientific understanding which will be ever more expensive and time consuming to gather, all the more so as the local environmental and social requirements must be accurately assessed.



A local and un-united community of farmers, (but collectively potentially important producers), would, at some future time, find it very difficult to change laws to address these problems.

These farms will, of necessity, be on the urban fringes and more than likely in areas of full water allocation. Their water aspirations will be up against the full force of macroeconomic decision making which will rarely be to the full advantage of local communities and minority food consumers.

GWG suggests a mechanism where, if necessary, additional small allocations be allowed within an appropriate consumer group for the local social benefit. If water availability is fully allocated, the increased take by this group would be accommodated by an *across the board* allocation reduction through an allocation announcement.

GWG supports the proposition of the position paper that statutory allocation limits are essential in a changing environment where demand for food, space and water is increasing and recharge of the water resource is decreasing. This is the only way to underpin the sustainability of supply mandated by the National Water Initiative.

The basis upon which the allocation limits will be set MUST be well researched. This will cost money the supply of which must be politically guaranteed.

The Gingin water region is a crucial region in the development of these new licensing rules.

- It has a complex and varied hydrogeology.
- It has a broad mix of agricultural land users combined with forestry, industrialisation and encroaching urbanisation.
- It has a unique mix of surface water assets and groundwater dependent ecosystems linked in a complex, and only partly understood, way to the groundwater system.



The Gingin region is covered by THREE recently updated water allocation plans. Its recently updated surface and groundwater allocation plans, and parts of the Gngangara groundwater allocation plan, provide a solid base for the application of statutory allocation limits.

This region's data base, however, must be used as a baseline of data and techniques upon which to improve and develop the level of understanding necessary to prove to the managing authorities that allocation limits can in fact be accurately measured and adjusted in relatively complex water regions where water use patterns are changing and water cycle dynamics need greater understanding. All this, in a region where full or over allocation of the current limits have been reached already .

The Department of Water, in its recently released *Gingin Groundwater Allocation Plan - for Public Comment*, made it quite clear that very significant additional funding is required to allow the Department to gather the data necessary to implement the Plans objectives to the scientific credibility required in changing conditions of the region.

GWG would suggest this level of ongoing local hydrogeological, environmental and social data collection must be a statutory part of water law reform.

The task may be too great for the DoW alone. Departments of Environment, Agriculture and Food, and Mining, may all need to be funded to gather the data necessary to set sustainable water limits which are equitable to all stakeholders (environment included).

### **Risk Assessment Framework and Compensation**

GWG is basically in agreement with the concept outlined in section 3.3.7 that there should be no general taxpayer compensation.

There will be inevitable reductions in allocations in regions currently close to or over-allocated in the lead up to setting a realistic statutory allocation limit upon which to move forward.



This should not be considered a change in Government policy, which would potentially trigger compensation.

### **Environmental Water**

GWG supports the proposal outlined in 3.4.1 that legislative changes are made to provide transparency and security for environmental water.

The process of identifying the environmental water requirement is expensive and the management authority must be adequately funded to achieve this.

Desk-top assessments of GDEs are better than nothing but in complex systems and particularly on private land holdings are often not sufficient.

The aim to identify then develop environmental indices for all major local assets should be the imperative upon which to base environmental water requirements. Local advisory groups should be used to identify local environmental assets.

### **Basic Water**

GWG supports the removal of inconsistencies in the application of Basic Water rights but urges that the supply of water for non-commercial purposes including on-farm and other water supplies for domestic, stock, garden and small enterprise purposes is an important requirement and must be maintained and strengthened.

As an essential resource, water must be allocated for best community outcomes, both commercial and social. Water is very important to regional ecology and to life style choices.

Legislating the allocation of water purely on market forces may alter the balance in a local community adversely over time.

Basic water requirements, particularly for landowners with stock watering or non-commercial on-farm requirements, need to adequately address the effects of falling water levels and flows in unconfined superficial aquifers and surface water systems



that are and will continue to be influenced by climate change and licenced extraction from over allocated plans.

An example in the Gingin region is the reduced level of the Gnangara mound causing a general lowering of surrounding superficial water sources, which may or may not be partially or fully perched, and which may or may not be recharged by surface brook flow. Licenced extraction in an over- allocated brook upstream, and elsewhere in the same over- allocated sub region is having a general water lowering effect on the farms of pastoralists. The effect is greater than might be expected from seasonal and climate variation. This may have a more drastic economic effect to that farmer who is taking a relatively small amount of stock water from a diverse number of surface or shallow sources on the farm, often with no access to electricity.

This may result in a relatively large expense to reposition the water points. It may not be affordable.

The managing authorities must make every effort to understand the dynamics of the water cycle at this micro local level when allocating basic water.

It will not be sufficient to consign all water table reduction to natural causes, especially in regions with a large mix of land use and water extraction.

The legislators must understand the problem and allocate sufficient funds to identify and assess these local interactions.

They must legislate to ensure the monitoring processes from large bore fields are being suitably assessed and extra monitoring bores dug where water regulating authorities have insufficient data to make accurate decisions. The Perth Regional Aquifer Modelling System (PRAMS) will not address these localised issues.

In the end compensation to basic water users who have to deepen bores etc. should be considered to maintain their existing level of viability in circumstances where water reductions have more than likely come from regional licenced allocation. For



example, a neighbouring plantation on a local recharge zone, or a large mining or horticulture licence taking more than the predicted recharge where the observed hydrodynamics of recharge do not reflect the water flow behaviours predicted by the modelling.

The transparency of the monitoring information flow (licensee to regulator) must be legislated to ensure that the local community is confident the water supply system is equitable to all and not just to the most commercially and generously resourced.

GWG supports the proposals to make the monitoring process more rigorous and transparent. It also supports the wider application of metering as outlined in 3.3.3

### **Research and Monitoring of Specific Issues**

The suggested research and monitoring of aspects such as Drainage, Injections, and Plantation Interception must be implemented and adequately funded.

Particularly in relation to plantation interception. It would appear that some of the pine plantations that are now maturing across the Gingin sands may have been placed in rapid water recharge areas and may now be seriously reducing recharge to surficial and surface catchment.

Consideration of plantation interception characteristics must become a statutory part of any allocation limit.

Local advisory groups should be approached to help identify such plantations.

David Rickson

President

Gingin Water Group Inc.

15<sup>th</sup> January 2014

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