

This bulletin has been produced to provide a snapshot of activities currently being undertaken by the Gnangara Sustainability Strategy Taskforce.

## Groundwater – Biodiversity – Land use

E-BULLETIN 01 – NOVEMBER 2007

Welcome to the first edition of the Gnangara Sustainability Strategy E-bulletin. If you do not want to receive these updates please contact [gss@water.wa.gov.au](mailto:gss@water.wa.gov.au) Please forward the e-bulletin to anyone you believe will be interested in this information or email [gss@water.wa.gov.au](mailto:gss@water.wa.gov.au) to be included on our mailing list.

## Introduction

The Gnangara groundwater system supplies 60 per cent of Perth's scheme water. It is accessed by many users, such as growers, private bore owners and pine plantations. The system also maintains wetlands and native vegetation.

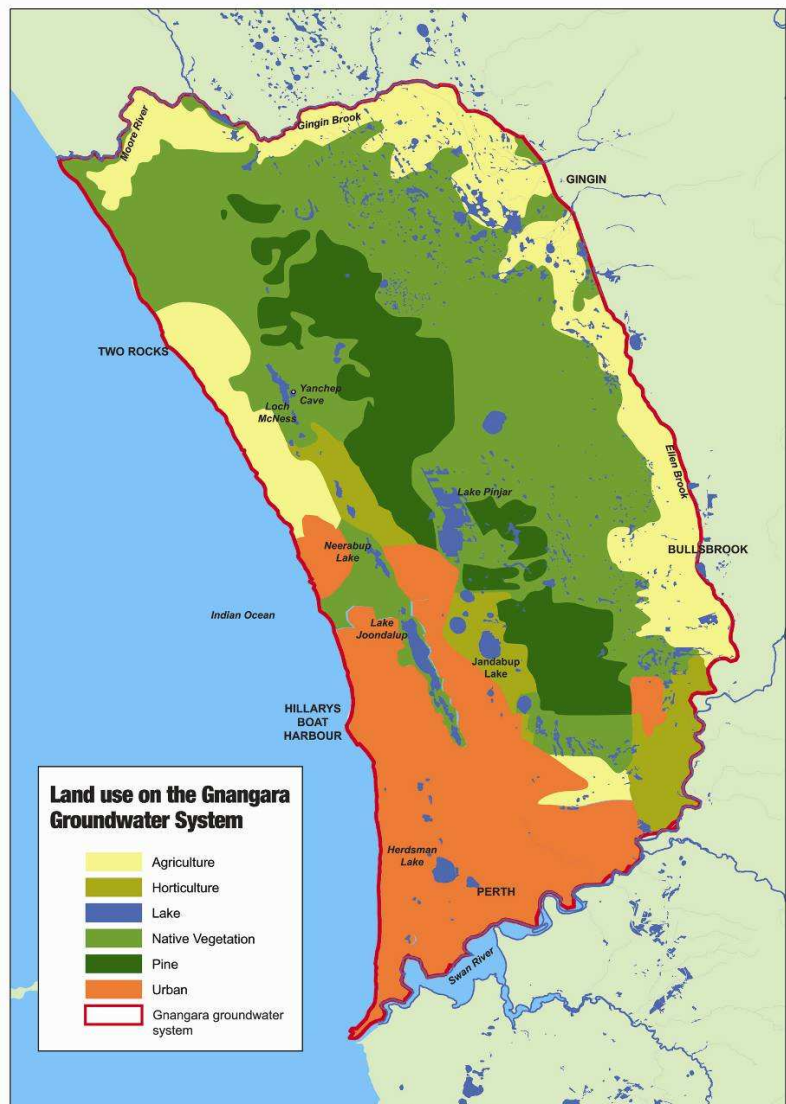
The Gnangara groundwater system is being affected by declining rainfall and the competing demands of users.

In an effort to secure the system's future, the Gnangara Sustainability Strategy (GSS) was formed. In 2009 the GSS taskforce will present a draft strategy with a number of proposed land use options.

The draft may include, but is not limited to:

- exploring alternative land uses after the pines are cleared
- establishing a horticultural precinct using treated wastewater
- recycling wastewater for other uses
- changing vegetation management such as burning banksia woodland to increase recharge and maintain biodiversity
- revising groundwater allocation to public and private water supplies.

For more information visit [www.gnangara.water.wa.gov.au](http://www.gnangara.water.wa.gov.au)



## GSS projects

The Gngangara groundwater system and the natural environment on which it depends are being monitored by the Department of Water to ensure that sufficient water is available for the community's needs. A lot of work has already been undertaken and a number of gaps have been identified. Through the GSS, we are working on projects that look at the following to fill those gaps:

- Biodiversity values on the mound (Department of Environment and Conservation)
- Quantitative analysis and integration of land-use and water-management scenarios (CSIRO)
- Local area modelling (Department of Water)
- Regional planning context and regional planning (Department for Planning and Infrastructure)
- Horticulture precinct on the Gngangara Mound (Department of Agriculture and Food WA)
- Plantation forestry (Forest Planning Commission)
- Future land uses for Crown land (Department of Environment and Conservation)
- Prescribed burning and water recharge (Department of Environment and Conservation)
- Strategic source options for the integrated water supply system; abstraction plans for 105 to 165 GL per year; viability of Eglington, Yanchep–Two Rocks and Barragoon schemes; winter pumping trial and Leederville ASR; hydrological investigations in the Yeal and Pinjar subareas; and a groundwater replenishment trial (Water Corporation).

## Project updates

### ***Quantitative analysis and integration of land-use and water management scenarios***

One of the challenges in developing a land- and water-use strategy for the Gngangara groundwater system is getting the right balance. If we do this well we will know how much water can be taken and ensure the ecosystems' health.

The models we have developed have given us a much better understanding of the effects of water allocation and land use. However, while our modelling takes into account the complex relationships between rainfall, land use, the water needs of vegetation and water abstraction, it does not yet give us all the information we need about the social and economic effects.

A project being undertaken by the CSIRO seeks to address this gap by developing a system or suite of decision-support tools that integrates physical, economic and social information to provide quantitative assessment of land- and water-management options at the regional or local level.

For more information contact [gss@water.wa.gov.au](mailto:gss@water.wa.gov.au)

### ***Biodiversity values on the mound***

The Gngangara groundwater system includes an area of 75 000 ha of public land containing pine plantations and the largest connected area of remaining native woodland on the Swan Coastal Plain. It has significant biodiversity assets, including over 600 wetlands, threatened species and threatened ecological communities. Our understanding of biodiversity and the environment's responses to a drying climate is limited.

This project, undertaken by the Department of Environment and Conservation, will address knowledge gaps by assessing biodiversity, fire regimes and land use.

### Historical data acquisition

Historical data sets relating to the biodiversity of the Gngangara mound are incomplete. We are currently collating data to identify which areas require further surveying. Input from various groups and individuals with knowledge of the area and existing information is essential to the success of the project.

People who have data and reference lists (preferably on EndNote) specific to the Gngangara area are invited to contribute to the project by including this data in the biodiversity audit.

If you would like to contribute, please send your data and/or questions to:

[paul.brown@dec.wa.gov.au](mailto:paul.brown@dec.wa.gov.au)

### What's next?

Over the coming months we will keep you up-to-date about the development of the strategy and how you can become involved.

Our new website at [www.gngangara.water.wa.gov.au](http://www.gngangara.water.wa.gov.au) will be improved to include issues papers, project summaries and links to relevant publications.

### Contact us

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