GREAT ARTESIAN BASIN COORDINATING COMMITTEE

THE GREAT ARTESIAN BASIN:

A Resource of National Importance

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Case Study – Landscape Change at a Multi-Regional Level

National NRM Knowledge Conference – 14-16 April 2008

GREAT ARTESIAN BASIN COORDINATING COMMITTEE

Resources Snapshot

Where it is

How it works

Assets

Management

Threats to values

Responses

Governance

GABCC

Strategic Management Plan

Focus & Prospects 2008-2015

Achievements

Desired Outcomes

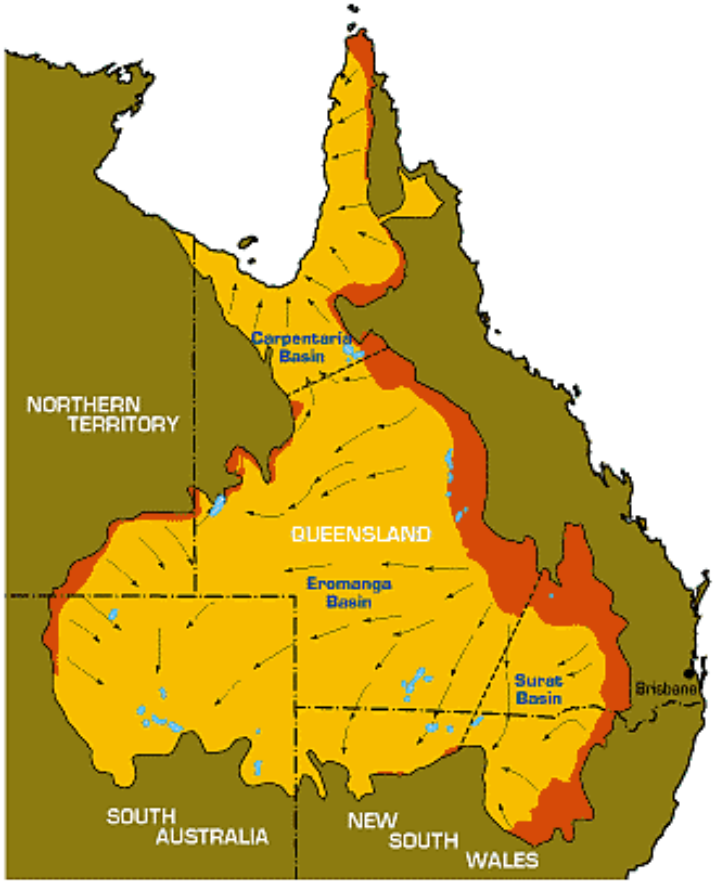
Landmark Outcomes

Priority Outputs

Priority Activities

Where Regional NRM can engage

Resources Snapshot



Where it is

Underlies 22% of the continent

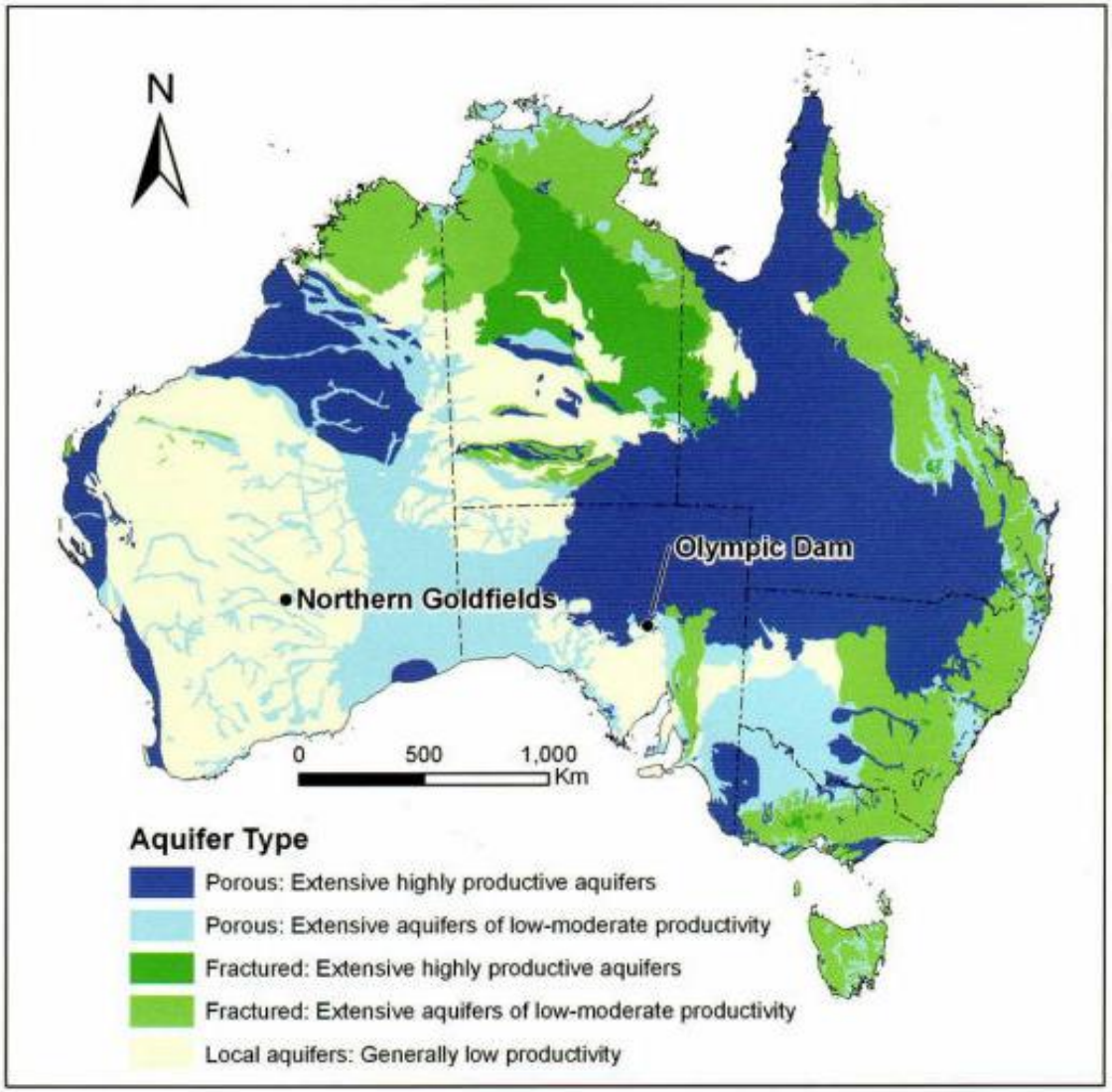
1.7M sq. km

Four States & Territories

c.70% of Qld

18 NRM Regions

Relates to Lake Eyre Basin and upper Murray-Darling Basin


N
Olympic Dam
Northern Goldfields
0
500
1,000
Km
Aquifer Type
Porous: Extensive highly productive aquifers
Porous: Extensive aquifers of low-moderate productivity
Fractured: Extensive highly productive aquifers
Fractured: Extensive aquifers of low-moderate productivity
Local aquifers: Generally low productivity

How it works

Aquifers between impermeable layers

Moves 10cm-5m per annum

Recharge areas East & West

Discharge springs

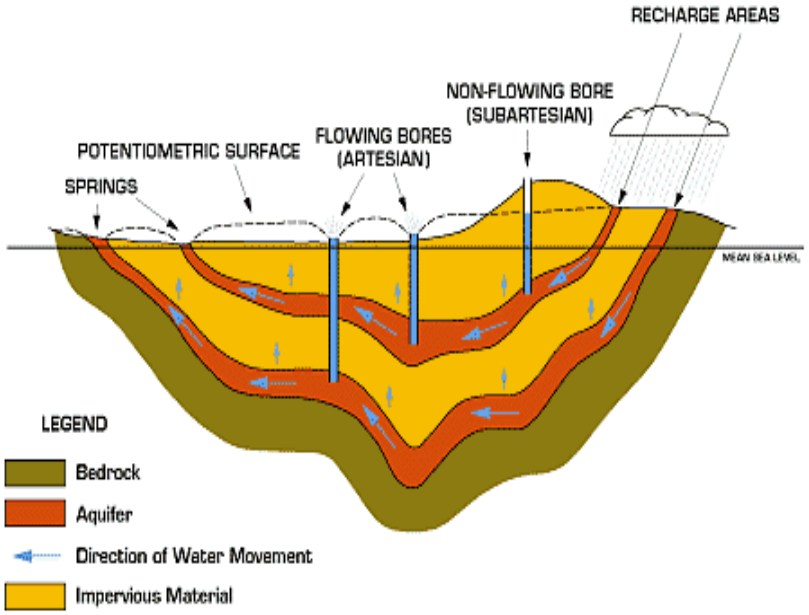
Artesian bores

Water to 2M years old in SA

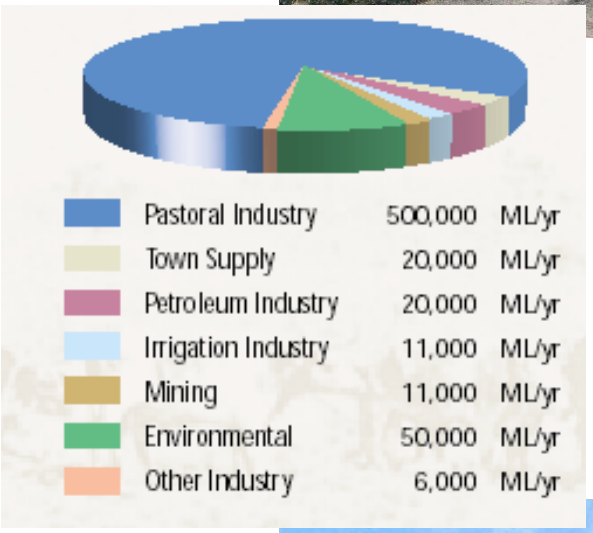
Up to 3km deep

Pressures to 1300 kPa

Temperatures av.30-50°C
up to 100°C



OPERATION OF AN ARTESIAN BASIN



Assets (1)

Volume – 65 Million GL

Pressure – c.5,000 artesian bores

Temperature

Reliable water supply for:

- industry inc. mining
- stock and irrigation
- town, domestic, tourism
- environmental flows

Returns >$3.5B per annum

Some not yet known

Assets (2)

Natural discharge springs

- Indigenous cultural values
- ecosystem listed under EPBC Act
- rare and endemic organisms and communities due to isolation
- significant value for ecological and evolutionary studies
- very restricted patch sizes from few cm to c.100m diameter
- many now inactive due to range of threats

Assets (3)

Cultural heritage

- Aboriginal mythology,
  Subsistence on springs
- European exploration, settlement,
  telegraph, rail transport,
  pastoralism, mining, tourism

Management

Threats to values

- Water wastage >90%
- Loss of artesian pressure to users and environment
- Water in dry landscapes
- Weeds & feral animals
- Degradation of springs by stock, modification, visitors

Responses

Better valuing – higher use

Allocation entitlements

Capping and piping

Bore integrity

Innovative technology

Protecting springs

Information/education

Cross-border cooperation

Governance

Commonwealth, State & Territory jurisdictions

- GAB Sustainability Initiative
- Natural Heritage Trust etc
- State water planning
- State GAB advisory bodies

Cross-jurisdictional mechanism

- GAB Coordinating Committee

⇨ Reporting to Natural Resource Policies & Programs Committee

GREAT ARTESIAN BASIN COORDINATING COMMITTEE

GABCC Roles & Responsibilities

Primary role:

To provide advice from community organisations and agencies
to State, Territory and Australian Government Ministers
on efficient, effective and sustainable **whole-of-Basin** resource management
and to coordinate activity between stakeholders

Specific responsibilities:

- reviewing the progress of programs
- reporting on the implementation of the Strategic Management Plan
- promotion/publicity and communication about whole-of-Basin values
- objective analysis of policy issues and provision of advice to Ministers
- coordination of policy/management across sectors where appropriate
- coordination of technical activity and research; and
- examination and preparation of recommendations to Ministers on **cross-border** issues

Membership

Independent Chair

State & Territory jurisdictions
- Qld, SA, NT & NSW

Australian Government
- DEWHA & DAFF

Community representatives
- State, Territory & Australian governments

Sector representatives
- agriculture, environment, Aboriginal, mining, petroleum, local government

Technical support

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Strategic Management Plan 2000-2015

Developed under GAB Consultative Council

Cooperative between jurisdictions

Extensive community and industry input

Whole of Basin perspective

National importance

Relationships between technological, social, environmental, physical and financial issues

Focus for action beyond capping and piping

Maximum community benefit from resources of the Basin

Community partnerships at the centre of management


Mid-term review:
Focus & Prospects
2007-2015

A few of the Achievements (1)

- Attitudinal shifts
  - resource of national importance
  - acceptance of closed water delivery systems
  - uptake of new technology
- Development of new partnerships
- Development of State water planning with community consultation and advisory bodies
- Cross-border cooperation and collaboration
- Focus on GAB springs

A few of the Achievements (2)

- Progress on capping & piping
  (to end June 07 – not GABSI alone)
  - 1,052 bores controlled
  - 19,432km of bore drains removed
  - 26,400km of piping installed
  - 272 GL water saved per annum
- And still to go (GABSI only):
  - 766 eligible bores
  - 12,434km of bore drains

Aspirations - Desired Outcomes (1)

- GAB recognised & cooperatively managed as a resource of national importance
- Sound understanding of hydrology & function
- Judicious use:
  - maximises productivity within sustainability, based on scientific evidence
  - retains options to allocate water to new uses for benefit of future generations
  - enhances biodiversity & cultural heritage values
  - is integrated with land & water management

Aspirations - Desired Outcomes (2)

- Basin pressure partially restored
- Balanced objectives in State/Territory plans
- Wastage of water progressively reduced
- Improved productivity enabled & sustained
- Land degradation progressively reduced
- ‘Natural’ condition of biodiversity enhanced
- Health of springs and GDEs enhanced
- Cultural heritage assets recognised & protected

Landmark Outcomes to 2015 (1)

- Changed expectations of prospects and future uses
- Recognition that main task is no longer ‘fixing-up’ but on-going management for diverse objectives
- GAB addressed in State/Territory water plans, catchment action plans, regional investment strategies, and bilateral agreements
- Explicit trade-offs between objectives in water plans
- GAB objectives explicitly addressed in water trading protocols (inter- & intra-jurisdictional) and associated water pricing

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Landmark Outcomes to 2015 (2)

- All priority/eligible bores capped & piped
- Changed practices by industry, towns, pastoral
- Uptake of water infrastructure technology
- Socio-economic benefits from judicious water use
- Knowledge of resource condition & trend
- Changed management of GDEs inc springs
- Awareness of biodiversity in water remote areas
- Protection of cultural heritage assets
- Partnerships with regional NRM bodies

Priority Outputs

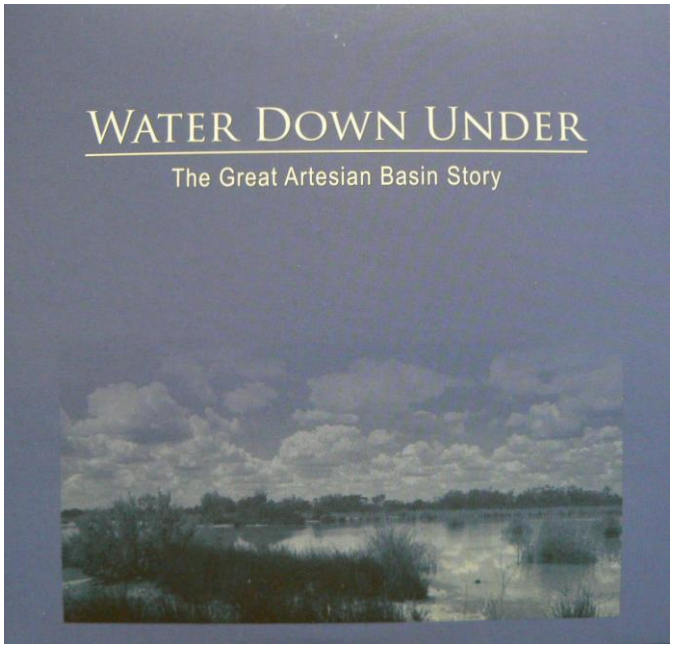
- Improved closed delivery
- Restored flow
- Reduced impact on springs/ GDEs
- Reduced salinity/erosion
- Reduced weeds & feral animals
- Reduced Greenhouse Gases
- Integrated property/NRM plans
- Community awareness
- Clear rights & responsibilities
- Assured access/entitlements
- Higher value uses enabled

Priority Activities

- Completion of priority bore works
- Water user education/ extension
- Projected long-term infrastructure costs
- Bore/flows monitoring network
- Better models of water balance & flows
- Projections of resource condition
- Science & research partnerships
- Location, mapping, measurement & management of springs
- Engagement with Regional NRM bodies
- Indigenous engagement

Where Regional NRM (& others) can engage

- Integrating GAB values into strategies, plans, investment, activities
- Reinforcing water user education/ ‘managing water in the landscape’
- Co-investing in programs for landscape recovery e.g. springs, recharge areas
- Partnering in assessment & reporting of resource condition
- Partnering in research investment (GAB R&D Prospectus)
- Assisting Indigenous engagement
- Assisting recognition and rewarding of GAB champions/ leading practice



Summing up

- The GAB is a large, complex resource
- It has high and multiple value at local, regional and national levels
- It takes a broad range of perspectives to develop sound approaches to managing such a complex resource
- Strategic focus is essential – we cannot be all things to all people on this kind of scale
- Our desired outcomes and outputs are strongly resonant with those of many regional NRM bodies and others
- The scale and nature of the task necessitates collaborative partnerships
- We welcome ‘joining up’ and integration of effort

Thank You

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