

# WATER RESOURCES

Water is arguably the most valuable of the region's resources and water management is integral to natural resource management within the Wide Bay Burnett. Clean water is essential for human health and the integrity of our aquatic and marine ecosystems. Water also sustains many of the region's economic activities including grazing, and irrigated primary production, industry and tourism (BMRG 2005).



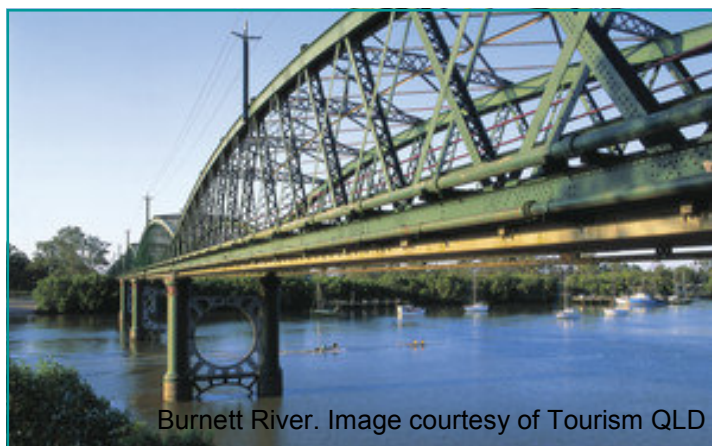
The Wide Bay Burnett contains a wide range of waterways, from the small mountain streams in the foothills of the Great Dividing Range to the larger rivers such as the Burnett and Mary. Other rivers systems in the region include the Kolan, Elliott, Isis and Gregory.

The region's major artesian groundwater resources are in the Mulgildie Trough, running from about Mundubbera to Cania Gorge. Sub-artesian groundwater resources include aquifers in the Bundaberg area, alluvial aquifers in the Monto area, Fraser Island sand beds and Cooloola sand mass.

Many rivers and streams within the region have modified flow regimes as a result of numerous water storages, such as dams, weirs and barrages. Several irrigation schemes, such as, Bundaberg, Upper Burnett, Barker/Barambah, Boyne, Three Moon Creek, and the Mary River Water Supply Scheme operate within the region. Unregulated pumping of natural stream flow also occurs (BMRG 2005).

Water quality is variable throughout the region's catchments. Some areas of high salinity and elevated total nitrogen and total phosphorus have been highlighted, particularly in the Burnett River catchment (BMRG 2009, Hunter et al 2003).

Groundwater quality varies throughout the region with Burnett groundwater generally good and suitable for both domestic and irrigation supplies, however groundwater quality in the Lower Mary area is generally poor. Saltwater intrusions are an ongoing management issue for the coastal aquifers and salinity is an issue in the Three Moon Creek area (BMRG 2005)



Population growth, drought, and surface water runoff quality are ongoing management issues for the region. Water supply is expected to be a major limiting factor for growth in many of the region's communities. This is likely to be exacerbated by projected population growth in coastal areas, coupled with predicted climate change impacts of increased temperatures and rainfall uncertainty.

Management of our region's water resources is vital to the long-term sustainability and liveability of the Wide Bay Burnett.

## Draft Regional Targets for Water Resources:

### **W1: By 2031, environmental flows will be used to meet the requirements for aquatic ecosystems health, ecological processes and cultural processes.**

Environmental flows are surface water flows required to sustain a healthy environment.

Obstructions and diversions of surface water flow, such as dams, weirs, water extraction (for domestic, industry and irrigation use) can disrupt downstream flow regimes and alter habitat. Ecosystem processes, the lifecycles of aquatic species and the distribution and abundance of aquatic life may be affected where flows are disrupted. This occurs in most waterways in the region, and threatens the long-term viability of aquatic ecosystems.

The use of environmental flows will assist to maintain or improve ecosystem health, ecological and cultural values.

### **W2: By 2031, 75% of groundwater resource units will have groundwater levels within identified acceptable annual ranges.**

A groundwater resource unit is a hydraulically connected groundwater system that is defined and recognised by state agencies.

The rate of groundwater recharge varies across the region. In some areas, the level of the watertable determines whether there is water in the streams. A high rate of groundwater extraction for increasing irrigation and urban use, coupled with expanding drought conditions, is placing groundwater resources across the region under pressure.

### **W3: By 2031, groundwater quality will be improved or maintained in all groundwater resource units from the 2012 baseline.**

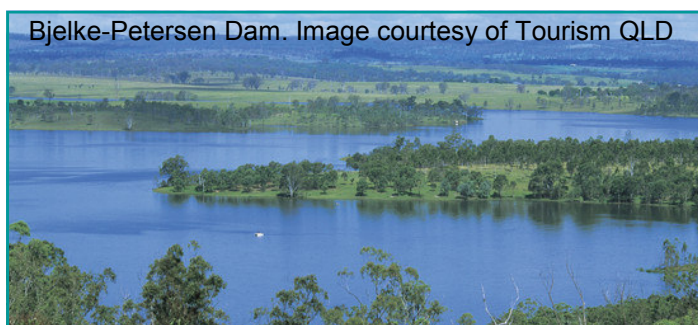
Rapid population growth is increasing the area of rural residential areas and urban development with a corresponding increase in septic and sullage wastewater discharges which can seep into the groundwater system. Urban areas also present a wide variety of groundwater pollution sources including fuel stations, industrial sites, contaminated sites, dumps and landfills. Agriculture and intensive industry are other potential sources of increased nutrient concentration in groundwater.

### **W4: By 2031, all waterways will improve or maintain water quality to meet scheduled water quality objectives.**

Good water quality is crucial for aquatic ecosystems and urban/industrial/ domestic and irrigation use. The achievement of this target is crucial for the supply of clean drinking water.

### **W5: By 2031, all water resources will be managed to improve or maintain water security, access and supply outcomes.**

The current drought, the potential of climate change, and increased population growth all threaten the quality and quantity of water available in the region. Water resources need to be managed to improve water security, access and supply to provide for the short and long term needs of the region.



Bjelke-Petersen Dam. Image courtesy of Tourism QLD

## References

- Burnett Mary Regional Group (BMRG) 2005, *Country to Coast—a healthy sustainable future*, Volume 2, Bundaberg.
- Burnett Mary Regional Group (BMRG) 2009, *Burnett-Baffle Water Quality Improvement Plan*, Bundaberg.
- Hunter, H., Witting, N., Clarke, R., and Raymond, M. 2003, *Water quality in sugar cane catchment in Queensland* Report No. 3, Department of Natural Resources and Mines, Queensland.