



## **WATER SUPPLY EMERGENCY PROJECTS**

*Part 8, Water Regulation 2002*

Monthly Progress Reports

December 2010

Queensland Water Commission  
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## 1 Background

In response to the water supply emergency in South East Queensland (SEQ), the then Minister for Water announced the making of a Regulation in 2006 to secure the water supply of the region.

The *Water Regulation 2002* (Regulation) under the *Water Act 2000* provides for a coordinated set of actions to be undertaken by State and Local Government entities.

This Regulation requires local governments and other service providers to undertake specified Measures and achieve Outcomes. Timelines for completion of the actions and target water volumes to be achieved were outlined in the Regulation.

Section 87(1)(b) and Section 88(1)(b) of the Regulation set out a requirement for all service providers to submit a progress report by the 5th working day of each month, with the reports to be published on the internet.

This report provides an overview of the performance of the regulated projects, and outlines the impact of the current progress on the overall drought strategy.

## 2 Program Overview and Drought Strategy Impacts

### Project Status

All nominated service providers submitted project reports in accordance with the Regulation.

There has been little variance against previously reported project schedules this month with most projects reporting progress in accordance with the Regulation targets.

Projects that have been previously completed:

- Brisbane Aquifer Project;
- Gold Coast to Logan transfer project;
- Cedar Grove Weir;
- Bromelton Off-Stream Storage;
- Brisbane City Council – substitute recycled water to industrial customers;
- Domestic Retrofit;
- Moreton Bay Regional Council – substitute recycled water to industrial customers;
- Southern Regional Water Pipeline;
- Eastern Pipeline Interconnector;
- Northern Pipeline Interconnector Stage 1, Ewen Maddock Water Treatment Plant;
- Enoggera Dam Water Treatment Plant Upgrade;
- Gold Coast City Council - substitute recycled water to industrial customers;
- Water Saving Initiatives – Business Water Efficiency Program; and
- Pressure and Leakage Management Project.

Furthermore, construction has been completed for a number of other projects which are now in the commissioning or proving period phase, including:

- Western Corridor Recycled Water Project; and
- South East Queensland (Gold Coast) Desalination Project.

With the cancellation of the Traveston Crossing Dam, monthly reports are no longer required for the project. The Community Futures Taskforce ceased operation on 30 June 2010. The

Coordinator-General has now taken over responsibility for the land management and disposal of properties previously acquired by Queensland Water Infrastructure Pty Ltd for the Traveston Crossing Dam.

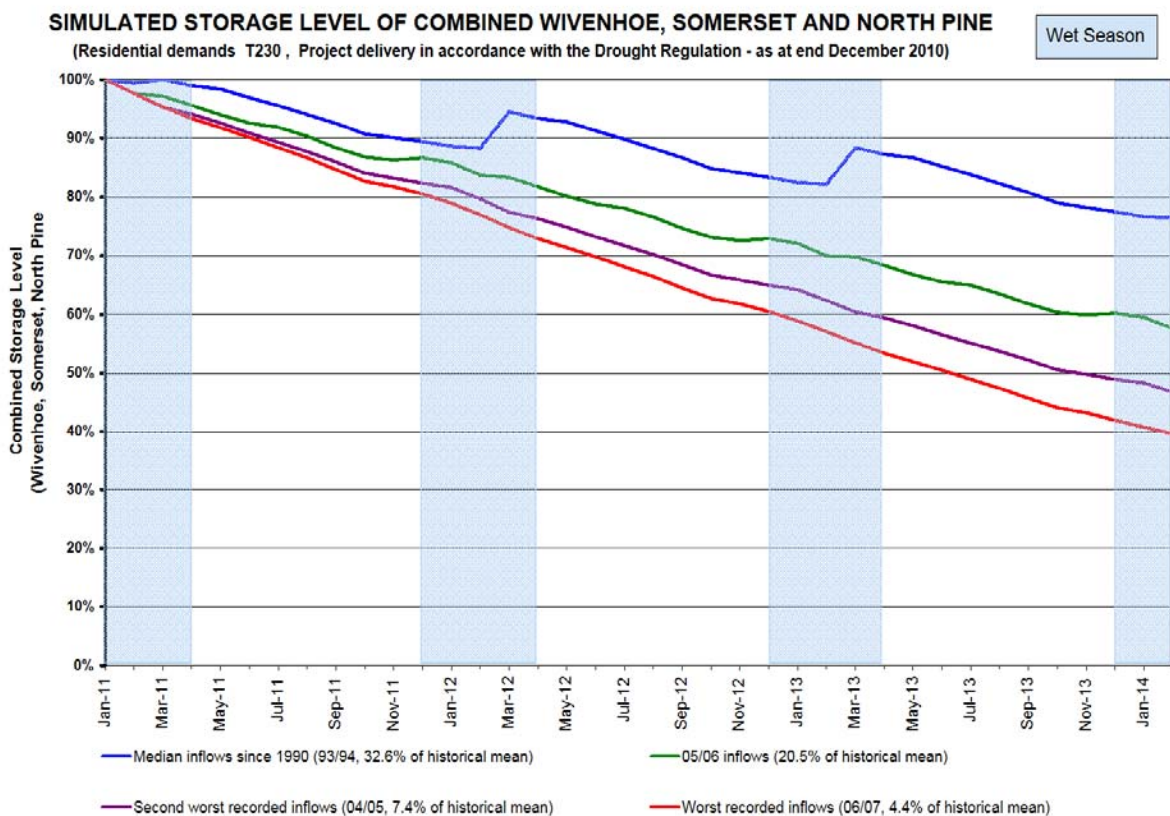
The *South East Queensland Water Strategy* (Strategy), released on 15 July 2010, states that additional supplies beyond existing projects will not be required until at least 2021/2022 based on demand growth. The Strategy states that, if residents can maintain an average consumption of 200 L/p/day, construction of a new source of supply may be deferred from 2021 to around 2027. The Strategy also identifies potential bulk water supply options for detailed investigation.

Issues associated with several projects are detailed in Section 3 of this Summary.

**Water Balance Impacts**

During December 2010, the combined storage levels of Wivenhoe, Somerset and North Pine Dams remained at 100%. Inflows to these storages during December 2010 totalled 1 115 829 ML.

Permanent Water Conservation Measures were introduced across SEQ on 1 December 2009, allowing people to use water efficient equipment in their gardens.



**Figure 1: Forecast Wivenhoe, Somerset and North Pine Dam storage levels based on repeated**

Figure 1 is modelled on the basis of an average residential consumption 230 L/p/day. On this basis, the Wivenhoe, Somerset and North Pine Dams are not forecast to fall below 40% of the combined storage capacity until February 2014 at the earliest. The modelling is based on the current instructions issued by the SEQ Water Grid Manager.

Figure 1 depicts the impact on the Wivenhoe, Somerset and North Pine Dam storage levels, considering the forecast delivery of the Regulation projects. This provides for four different

dam inflow scenarios including repeated 2006/07 inflows (worst year on record); 2004/05 inflows (third worst year on record); 2005/06 inflows (as a comparison have also been analysed) and 1993/94 inflows (median inflows for the period 1990-2006).

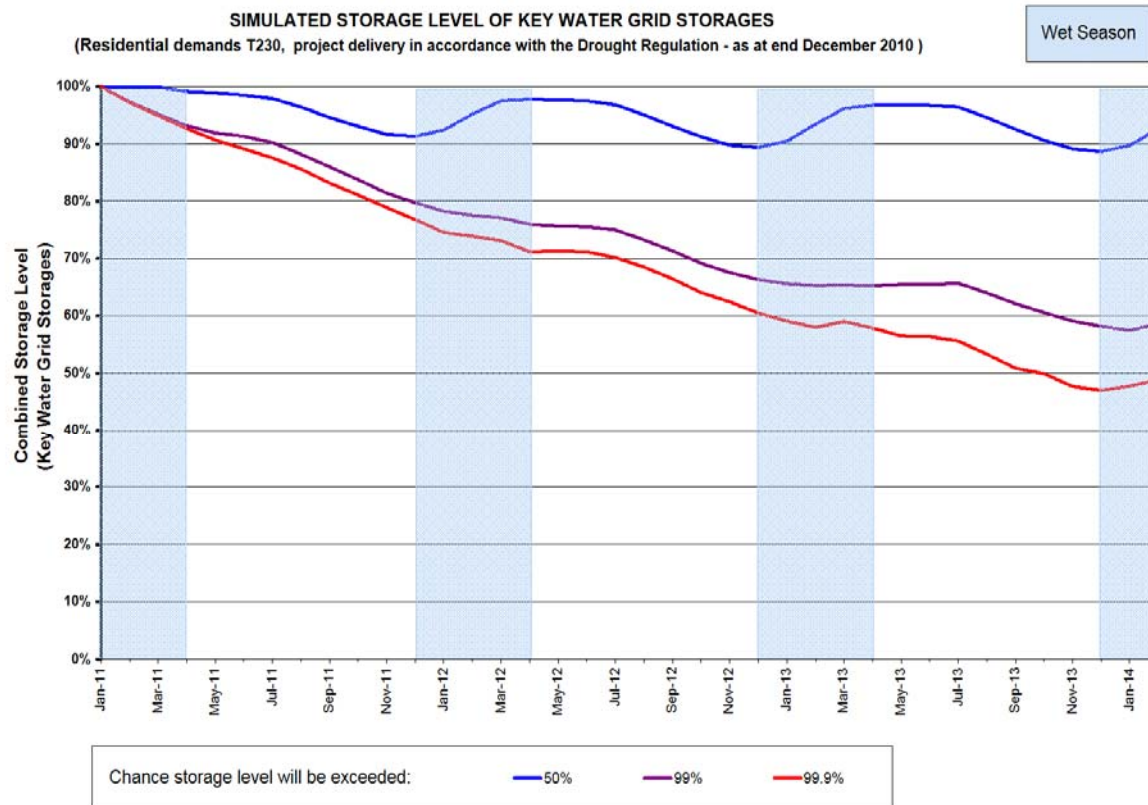


Figure 2: Forecast Key SEQ Water Grid Storage levels based on probabilities of exceedance

Figure 2 illustrates drawdown curves for key SEQ Water Grid Storage levels with defined probabilities of exceedance. As an example, the 99% curve shows dam levels which have a 99% probability of exceedance at any point along the curve. That is, there is a 99% chance the levels in the storage will be greater than that shown on the 99% curve. The probabilities quoted are based on 100,000 years of stochastic climatic and hydrologic data generated from 117 years of historical data within the SEQ region. Modelling is based on average residential consumption across SEQ of 230 L/p/day, and includes an allowance for forecast population growth.

Both figures assume the SEQ Water Grid will be operated in accordance with the existing System Operating Plan. The System Operating Plan requires the SEQ Water Grid Manager minimise operating costs while maintaining regional water security.

Figure 2 illustrates there is a 99.9% probability of dam levels will remain above 40% of capacity at February 2014 and there is a 50% probability of dams remaining at near current levels.

### 3 Projects Requiring Attention

Projects with challenges meeting timeframes or outcomes are discussed below:

#### Measure 1 - Bribie Island Groundwater project

*Issue:*

This Measure requires the capability to supply up to an extra 5 ML/day of water sourced from Bribie Island by 13 June 2008.

*Status:*

The Southern borefields, have supplied up to an additional 0.9 ML/day of water from November 2007. Supply from the Northern bores originally was delayed due to final approval under the *Environmental Protection and Biodiversity Conservation Act 1999* not being received from the Federal Government until 7 April 2008.

Commissioning of the northern borefields and Banksia Beach Water Treatment Plant was completed in August 2008 and this new source has the current capacity to supply up to 3.5 ML/day into the network. Extensive groundwater monitoring systems and a management plan are in place to ensure the aquifer is not compromised by saltwater intrusion.

Process investigations have justified the inclusion of two inclined plate clarifiers to achieve the full production capacity of the constructed treatment plant. Civil construction has started and is expected to be completed in first half of February 2011 when mechanical and electrical construction would follow for commissioning the completed work by May 2011.

#### Measure 3 - South East Queensland (Gold Coast) Desalination Facility

*Issue:*

This Measure requires the preparation, construction and commissioning of the SEQ (Gold Coast) Desalination Facility.

*Status:*

Supply from the SEQ (Gold Coast) Desalination Facility into the Water Grid commenced on 26 February 2009, with full capacity available from 23 March 2009.

It was proposed to run at 33% capacity in January 2011, and undertake a series of shutdowns as part of scheduled "Hot Standby Testing", with Hot Standby Operation expected to commence early 2011, but with the flooding in the Brisbane River, the plant has been run at 66% capacity to supplement the water supply in the Water Grid.

At the end of December 2010, the desalination plant had supplied 32,280 ML of water into the SEQ Water Grid.

Practical Completion (PC) was achieved on 24 September 2010 and documentation to close out the project is in progress. The Operation Phase is in progress.

## Measure 06/07/08 – Western Corridor Recycled Water Scheme

### *Issue:*

This Measure requires the construction and commissioning of Stages 1A and 2A of the Western Corridor Recycled Water Scheme to achieve 20 ML/day by 31 August 2007, an additional 46 ML/day by 30 June 2008 respectively, and Stages 2A and 2B to achieve 116 ML/day by 31 October 2008 and another 50 ML/day by 31 December 2008.

### *Status:*

#### Luggage Point Advanced Water Treatment Plant

The Luggage Point Alliance (LPA) achieved Practical Completion on 26 July 2010 and an extended handover period has started to allow the LPA to keep control of the plant during major scheme integration works and raw water piping improvements scheduled to be completed by late April 2011.

#### Gibson Island Advanced Water Treatment Plant

Full scale coagulant dosing across all main plant clarifiers has been introduced and is operating successfully.

The main plant recommenced operation at 50 ML/day in late September 2010 and the 90 day Proving Period (PP) trial which commenced on 1 October 2010 is now complete.

Water produced from both the Gibson Island and Luggage Point plants meets water quality standards.

## 4 Service Provider Reports

Attached to this report are the individual monthly reports for each project, provided by the service providers responsible for delivery of the project.

It is noted the following projects are complete and no further monthly reports are required from the service providers in relation to these projects:

### **Schedule 10B Projects:**

#### Measure 2 - Brisbane Aquifer Project

#### Measure 4 - Southern Regional Water Pipeline

#### Measure 5 – Enoggera Dam Water Treatment Plan Upgrade

#### Measure 9 - Eastern Pipeline Inter-connector

#### Measure 10(a) - Northern Pipeline Inter-connector Stage 1

#### Measure 14 - Minimise taking of Water

- SEQWater and SunWater
- CG01 - Cedar Grove Weir
- CG02 - Bromelton Off-stream Storage

#### Measure 12 – Traveston Crossing Dam Stage 1

With the cancellation of the dam, monthly progress reports are no longer required for the project.

**Schedule 10C Projects:**

Outcome 1 - Substitute Recycled water

- Brisbane City Council

Outcome 2 - Substitute Recycled Water

- Ipswich City Council
- Lockyer Valley Regional Council
- Logan City Council
- Redland City Council
- Scenic Rim Regional Council
- Somerset Regional Council
- Sunshine Coast Regional Council
- Moreton Bay Regional Council
- Gold Coast City Council

Outcome 6 - Alternate Supply – Logan to Gold Coast

- Logan City Council

Outcome 7 – Pressure and Leakage Management Project

Outcome 8 - Home Retrofit

Outcome 09 - Water Saving Initiatives, Business Water Efficiency Program (BWEP)