



# Gladstone Area Water Board

Awoonga Dam

Spillway Crest FSL 40m

Dam Crest EL55.40m

Emergency Event Report

25 January 2013 to 2 April 2013

B	22-04-2013	G Larsen	Board 24-04-2013	
A	31-01-2013	G Larsen	T. Ward 15-04-2013	
<b>Rev</b>	<b>Date</b>	<b>Author</b>	<b>Reviewed</b>	<b>Approved</b>

# 1 Executive Summary

## 1.1 Flood event starting 23<sup>rd</sup> January 2013

Rainfall in the Boyne Valley commenced around 6 pm on 23 January 2013. By the time rainfall ceased on the morning of 27 January approximately 730 mm had fallen across the Awoonga Dam catchment.

Water level in Awoonga Dam prior to the event was 39.29m, 0.71m below spillway crest level. Awoonga Dam water level started rising from about midday on Thursday 24 January with more rapid rises from midday Friday 25<sup>th</sup> January. Lake Awoonga reached full supply level with spilling commencing 2.00am on 25<sup>th</sup> January 2013 and reached a peak level of 48.3 metres at about 6:00 am on Sunday 27 January 2013.

Saddle Dam 3 is an earth embankment and functions as an auxiliary spillway to the main Awoonga Dam structure in large flood events. Saddle Dam 3 overflowed for a period of approximately 11 hours. The maximum depth of flow over Saddle Dam 3 was 400mm. Some erosion damage to the Saddle Dam did occur, however erosion did not cut through the embankment.

The flood resulted in inundation of:

- Pike's crossing on the Boyne River below the dam (inundation occurs at 40.3m level)
- Boyne Valley Monto Road behind the lake (inundation occurs at 41.5m level)
- Awoonga Dam Road and some downstream properties as a result of overflow of Saddle Dam 3
- GAWB Awoonga Dam intake tower
- Toilets and boat house at Riverston
- Cluden Homestead
- Boyne Valley land management workshop
- Awoonga Dam Recreation area and related infrastructure
- Boynedale bush camp

Boyer valley Monto Road was cut off from 25 January 2013 and was reopened to traffic on Friday 1 February 2013.

A peak water level of 48.3m is the highest storage reached by the Dam and greatly exceeds the previous maximum recorded level of 44.1m from December 2010. At 48.3m Awoonga Dam was holding 1.5 million mega-litres of water which is 193% of capacity, with an outflow estimated at just over 5,030 cubic meters per second. .

The Lake level receded to 40.30 metres at 9.00 am on 9 February, resulting in the deactivation of the Emergency Action Plan (EAP) 1.2 to EAP 1.1 – GAWB maintained level 1.1 up to the second rainfall event as noted further in the report (occurred on 26 February 2013).

From post event inspections, it is evident that there has been no structural damage to the main embankment or main spillway structure, however:

- The Saddle Dam 3 embankment was damaged but was not breached.
- Erosion damage occurred down-slope and downstream of Saddle Dam 3
- There was damage to the spillway channel bridge abutments, and to shotcrete lining to spillway outlet channel banks.
- The main Intake Tower was inundated and Intake Tower access, electrical systems and lift were damaged, and repairs are underway,
- Some surface damage is anticipated on the spillway face and apron when water levels recede
- Buildings and roads at and around the Awoonga Dam and recreation areas were damaged

Damage reports have been compiled and insurers notified with insurance companies noting their intention to respond to the claims in accordance with GAWB's ISR and Liability policies.

## **1.2 Subsequent rainfall and inflows from 25 February 2013**

Subsequent rainfall occurred on Monday 25<sup>th</sup> to Wednesday 27<sup>th</sup> February resulting in the lake levels rising from 40.11m to 42.3m (peak achieved on 3<sup>rd</sup> March 2013). Inundation of Monto Road and Pikes Crossing areas re-occurred as a result of the rainfall during this period and the management controls mobilised originally in accordance with GAWB EAP Action Plan 1.1 were maintained. The subsequent inflows resulted in:

- Boyne Valley Monto Road being cut off from Saturday 2<sup>nd</sup> March 2013 when the lake level exceeded 41.5m with the road being reopened on 6 March 2013
- Pikes Crossing causeway was inundated at 40.3m on 26<sup>th</sup> February 2013 and the alternate access route was made available for residents to utilise as per prior arrangements. The lake level receded below 40.3m on 17<sup>th</sup> March 2013.

GAWB has deactivated action plan 1.1 as at 2<sup>nd</sup> April 2013 due to current forecasts and receding lake levels. There has been no further damage as a result of the late February 2013 rainfall and subsequent inflows.

GAWB will continue monitoring and maintaining its preparedness for response to any further emergency or spilling events in accordance with Awoonga Dam Emergency Action Plan.