

Appendix B

Community questions and concerns

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Community questions and concerns

The Office of the Inspector-General Emergency Management (IGEM) has compiled a list of representative questions and concerns asked by the community about flooding in the Callide Valley. Simple answers are provided here with a reference to where you can find more information in the main report. Similar questions and concerns have been grouped.

Operation of dams: Callide, Kroombit and Awoonga

1. Could the [Callide Dam] gates have been opened beforehand?¹

It is possible for the gates to have been opened beforehand, but it was not a decision SunWater could make. Generally, it is a decision for the relevant Minister/s. The decision-maker must consider the sustainable management of the wider Fitzroy Basin in accordance with legislation and the Fitzroy Basin Resource Operations Plan. Any changes to this would require extensive consultation with stakeholders with an interest in the dam's water, including the community that uses it, or that may be impacted by its release. For further detail, see the report section 'Can the Callide Dam be operated differently?'

Other community concerns addressed above:

- *The weir behind Callide Creek was brimming. If we knew significant rain was coming, why was water from the weir not let go early to take the spike off flooding?²*
- *Why couldn't they [SunWater] release water from the Callide Dam a few days beforehand?³*
- *If the [Callide Dam] gates had opened at 8.00am on Friday, everything would have been fine.⁴*
- *In this day and age engineers should be able to do the math on maximum safe levels for the public 72 hours out. If the [Callide Dam] release only caused a 50mm/100mm difference in flooding, did it really make a difference?⁵*
- *If the water was released from the Callide Dam sooner, it wouldn't have backed up other waterways.⁶*
- *Were there no releases [from Callide Dam] because SunWater didn't want landholders outside the 'benefit area' to get the water?⁷*
- *Why couldn't they release water [from the Callide Dam] knowing the cyclone was coming?⁸*

2. Would it hurt to change Callide Dam to a flood mitigation dam?⁹

It is possible for the Callide Dam to have increased flood mitigation potential and there are a number of ways this can occur. Many of the options for making the Callide Dam a flood mitigation dam are expensive and would require thorough enquiries into the potential benefits and risks. For further detail, see the report section 'Can the Callide Dam be operated differently?'

3. The Callide Dam level should be fixed at 75% during December to March to assist Jambin residents.¹⁰

Fixed or variable airspace management is a flood mitigation strategy that involves reducing a dam to a pre-determined level for the duration of the rainy season, or in anticipation of a rain event. This can have impacts on water security, and like any other change to the operation of the dam, the benefits and risks to all stakeholders must be considered thoroughly. For further detail, see the report section 'Can the Callide Dam be operated differently?'

4. Can the IGEM find out how many times SunWater has opened the Callide Dam manually?¹¹

SunWater advised us that the gates have been operated manually as follows:

- for discharge events in January 2013 and February 2013
- for discharge during the tail end of the February 2015 event (gate closing)
- for functional testing without discharge of water (preventative maintenance program), which occurs for each month where the water level is below the spillway crest level.

5. When did the Callide Dam gates close and how much water flowed into the Callide Creek?¹²

The Callide Dam gates closed at about 2.00pm on Sunday 22 February 2015. The total inflow to the Callide Dam was about 98,500ML and the total outflow into the Callide Creek downstream was about 84,000ML. More information is available in the Hydrologist Report.

6. Concern that impact to Kroombit Tourist Park must be [Kroombit] dam related.¹³

Kroombit Tourist Park is upstream from the Kroombit Dam and could not have been impacted by the dam. Kroombit Dam does not have gates and the storage level was at 99% prior to the event.

7. Why did the Callide Dam not release water like the Gladstone Area Water Board did from Awoonga Dam on the Tuesday beforehand as a safety measure?¹⁴

Awoonga Dam is an ungated dam and so releases are uncontrolled. As to the reason the Callide Dam did not release water on the Tuesday beforehand, see question one.

8. Has a risk assessment been done if the Callide Dam gates do not open?¹⁵

Yes, there are a number of fail-safes if there are problems with the gates. For further detail, see the Planning section of the report for information about SunWater's approach to Hazard Identification and Risk Management.

9. Why can't they have email or electronic control of the Callide Dam gates like farmers have with remote irrigation control?¹⁶

Electronic and remote control of the gates is possible, along with electronic surveillance of the gates. The dam safety regulator cautions though, that remote operations and/or unmanned electronic controls have not always operated as desired (e.g. inadequacy of automatic gate opening systems contributed to the failure of Oaky Creek Dam in northern New South Wales).¹⁷

10. Heard Callide Dam gates were overflowing and that is why they couldn't open them.¹⁸

The gates at the Callide Dam did not overflow. Manual gate operation was not possible as the cyclone made it too dangerous for SunWater staff to go out on to the dam wall to control and monitor the gates.

11. The opening of the Callide Dam was too fast.¹⁹

The dam gates work when water flows into a chamber with a float and the gates rise as the dam level rises. That means the speed of the gate opening is directly related to the speed of the flood. This cannot be controlled unless the gates are manually operated. The safety of the dam is protected by the speed of the gate opening to allow the flood through. If the gates opened more slowly, the dam may have filled to a level that was not safe or may even have 'over-topped', creating an even greater impact from flooding downstream. It is noted however, that the dam did provide flood attenuation benefits. The maximum flow into the dam from the flood was approximately 5,900m³ per second, while the maximum flow discharged from the dam was approximately 3,500m³ per second. For further discussion on the opening of the gates during the February 2015 event, please refer to section 6.2.4 of the hydrologist report.

12. Can't the Local Disaster Management Group (LDMG) order SunWater to open the gates and start releasing water?²⁰

No. The LDMG cannot make decisions about the operation of the dam, including releasing water. Refer to question one as to why water was not released from the Callide Dam before the flood event.

Warnings

13. Why are warnings over the computer? Is there a better and more effective system for warnings? Concerns were raised at the general referral for warnings to the Bureau of Meteorology (BoM) website.²¹

There is no single method for warning that will reach all of the community. In this event, multiple methods were used. Warnings were issued by the Banana Shire Council (the Council), SunWater and the BoM. The BoM told us that:

'... the Bureau will continue to seek feedback regarding community needs in distribution mechanisms for warnings. The Bureau is always working towards providing improved situational awareness to the community'.²²

A detailed discussion of warnings and the issues encountered with consistency, coverage, timeliness and message content is included in the Warnings section of our report.

Evacuations

- 14. In 2013 there was clear communication to evacuate, including notification to people living in low lying areas of Biloela. This time there was nothing and reference only to those in Jambin and Goovigen.²³**

There were several issues with the Emergency Alert message sent by the LDMG. For further detail, see the Warnings section of the report.

- 15. Why weren't evacuation plans activated earlier for low lying areas, particularly, during daylight hours?²⁴**

The Council's evacuation plans require planning and preparation for evacuation to occur, on average, seven hours before evacuation is required. The Council told us they did not foresee the need for evacuation during the day. The issues with Council's ability to predict the impact of flood is discussed in the Operational Information and Intelligence section of the report, both for the Council and the BoM.

The facilities the Council has for sheltering are basic and may not be appropriate for shelter during a cyclone. Around 6.20pm, the Council issued a media release encouraging people to seek shelter with friends and family first. For more detail, please refer to the report's Evacuation section.

Other community concerns that the above answer should cover include:

- *Why wasn't the emergency evacuation centre set up at the civic centre earlier on Friday, rather than being left until the last minute?²⁵*
- *There was flash flooding. People should be evacuated in daylight.²⁶*

River and rainfall gauges

- 16. Why was the automatic stream gauge on Bell Creek near Craigland not indicating changes in stream height on the BoM?²⁷**

The Department of Natural Resources and Mines (DNRM) owns the Bell Creek near Craiglands gauge and the data is shared via the BoM website. Since the Bell Creek at Craiglands gauge is outside mobile telephone network coverage, a satellite modem and antenna transmits the data. The DNRM told us that there were problems with satellite data transmission from this gauge for about seven hours from 5.00pm to midnight Friday 20 February 2015.²⁸ Dense cloud and high rainfall, such as during a cyclone, can affect satellite transmissions. The gauge was fully operational and data was retrieved from the field data logger after the cyclone.

- 17. How many rainfall gauges and flood level gauges are in the Callide, Kroombit, Rainbow and Kariboe creeks?²⁹**

On the following page is a table of gauges in the Callide, Kroombit, Rainbow and Kariboe creeks. This information is available on the BoM website.

For a discussion on gauges, please see the Hydrologist Report and the section on Operational Information and Intelligence in the report.

Ref #	Gauge location	Gauge type
130319A	Bell Creek at Craiglands	Rain
1303P006	Blue Hills Standalone Pluvio	Rain
1361P002	Boolaroo Tops Standalone Pluvio	Rain
539071	Callide Ck TM	Rain
130327A	Callide Creek at Goovigen	Rain
539111	Callide Dam Inflow TM	Rain
539107	Craiglands TM	Rain
539068	Goovigen TM	Rain
130336A	Grevillea Creek at Folding Hill	Rain
1303P003	Kroombit Tops Standalone Pluvio	Rain
130348A	Prospect Creek at Red Hills	Rain
539100	Red Hill TM	Rain
130334A	South Kariboe Creek at Pump Station	Rain
539106	South Kariboe Creek TM	Rain
130315C	Callide Creek at Stepanoff	River Height
130319A	Bell Creek at Craiglands	River Height
130327A	Callide Creek at Goovigen	River Height
130334A	South Kariboe Creek at Pump Station	River Height
130336A	Grevillea Creek at Folding Hills	River Height
130347A	Callide Creek at 96km	River Height
130348A	Prospect Creek at Red Hill	River Height
130349	Don R at Kingsborough	River Height
130355	Dee R at Kenbula	River Height
130335	Dee R at Wura	River Height
130362	Dawson R at Knebworth	River Height
130306	Don R at Rannes	River Height
130378	Dee R at Dululu	River Height
130360	Kroombit Ch at Kroombit Dam HW	River Height

Flood risk management

18. The review needs strong input from those affected by the Kroombit.³⁰

Local governments are primarily responsible for flood risk management and there are a number of mitigation options for the future. For further detail, see the report section on Floodplain Management and Planning: Banana Shire Council.

Our review has sought community input through:

- visiting the homes and businesses of affected residents from Kroombit, Biloela, Jambin, Mount Murchison, Argoon, Smokey Creek, Dakenba, Goovigen, Valentines Plains and Dululu
- a community meeting with approximately 200-250 Callide Valley residents
- a telephone survey of 406 residents from across the Callide Valley
- inviting submissions to the review.

Other community concerns addressed above:

- *What is going to be done about the Kroombit Dam? There are many homes that have been affected in the pathway of the Kroombit.*³¹

19. Circumstances around the dams have changed. There are now a number of homes built around and in the water pathway of dams. Operational procedures need to change to reflect this changed circumstance.³²

Please see the answer to question one and the report sections on Floodplain Management, and Planning: Banana Shire Council.

20. We wouldn't have built if we knew it was a floodplain.³³

For detailed discussion on floodplain management, see the report section on Floodplain Management. For specific information about the Council, please see Planning: Banana Shire Council.

21. What is a 1 in 10,000 year flood?³⁴

A 1 in 10,000 year event refers to the magnitude of flood that has a certain chance of occurring each year. This does not mean it will only occur once every 10,000 years. The estimates of flood probability are based on historic records for the area and so they can change over time as there is more data to make the calculations. Discussion of the rainfall magnitude for this event is included in section 4.4 of the hydrologist report.

22. Can the power be channelled underground to prevent power loss?³⁵

The issue of power is outside the scope of this review

Endnotes Appendix C

1. Community meeting with the Inspector-General Emergency Management, March 2015.
2. Community meeting with the Inspector-General Emergency Management, March 2015.
3. Community meeting with the Inspector-General Emergency Management, March 2015.
4. Interview with resident, March 2015.
5. Community meeting with the Inspector-General Emergency Management, March 2015.
6. Interview with resident, March 2015.
7. Interview with resident, March 2015.
8. Interview with resident, March 2015.
9. Interview with resident, March 2015.
10. Interview with resident, March 2015.
11. Community meeting with the Inspector-General Emergency Management, March 2015.
12. Community meeting with the Inspector-General Emergency Management, March 2015.
13. Community meeting with the Inspector-General Emergency Management, March 2015.
14. Community meeting with the Inspector-General Emergency Management, March 2015.
15. Interview with resident, March 2015.
16. Interview with resident, March 2015.
17. Department of Energy and Water Supply letter to the Office of the Inspector-General Emergency Management, 13 May 2015.
18. Interview with resident, March 2015.
19. Interview with resident, March 2015.
20. Interview with resident, March 2015.
21. Community meeting with the Inspector-General Emergency Management, March 2015.
22. Bureau of Meteorology letter to the Office of the Inspector-General Emergency Management, 13 May 2015, p. 5.
23. Community meeting with the Inspector-General Emergency Management, March 2015.
24. Local newspaper enquiry to Banana Shire Council. Details provided to Inspector-General Emergency Management by the Banana Shire Council.
25. Local newspaper enquiry to Banana Shire Council. Details provided to the Office of the Inspector-General Emergency Management by the Banana Shire Council.
26. Community meeting with the Inspector-General Emergency Management, March 2015.
27. Resident's Submission to the Office of the Inspector-General Emergency Management, March 2015.
28. Department of Natural Resources and Mines email to the Office of the Inspector-General Emergency Management, 19 May 2015.
29. Community meeting with the Inspector-General Emergency Management, March 2015.
30. Community meeting with the Inspector-General Emergency Management, March 2015.
31. Community meeting with the Inspector-General Emergency Management, March 2015.
32. Community meeting with the Inspector-General Emergency Management, March 2015.
33. Interview with resident, March 2015.
34. Interview with resident, March 2015.
35. Interview with resident, March 2015.

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