

# Appendix G

## Drought, fires, floods and water quality

Appendix G is available on the WSAA website

[wsaa.asn.au/publication/bushfire-recovery-case-study-8-lindfield-park-road-rehydration-project](https://wsaa.asn.au/publication/bushfire-recovery-case-study-8-lindfield-park-road-rehydration-project)

# DROUGHT, FIRES, FLOODS AND WATER QUALITY

The town of Tenterfield and surrounding area has been hit hard by the drought in New South Wales. When fires began in February 2019, drought conditions affected the ability of the NSW Rural Fire Service to obtain water for firefighting. Fires continued to burn into November 2019. The fires were followed by a large rain event which compromised water quality and led to a boil water alert.

In April 2018 Tenterfield Dam reached 70% capacity and Level 1 water restrictions for Tenterfield town and the extended rural community started. Water restrictions increased through to Level 4 when the Dam was at 50% capacity in February 2019. To help the community reduce their water use further the gap between Level 4 and 5 was revised to include levels 4.5 and 4.7.

During the severe drought fires started in the village of Drake in February 2019. Fires continued throughout the shire with the catchment and Tenterfield town fires in September 2019. Fires continued burning until November 2019.

Drought conditions affected the ability of the NSW Rural Fire Service to obtain water. Many residents used their own dams to fight the fires.

Ash, smoke and dust covered the town for months and impacted water quality, both taste and odour.

In October 2019 Tenterfield Shire Council began advising residents to boil water, when the dam levels dropped to about 18%. The boil water alert was removed on 23 December 2019.

In late November, a storm brought hail and heavy rain creating a frozen sludge and washing a large amount of ash, organics and debris into the catchment. There was also concerns about retardants from fire booming. The result was fish kills and the orange water quality event.

### **Flooding**

- Public Works aided Tenterfield Shire through providing sedimentation traps

### **Water quality**

- What to look for: by-products of chlorine, ammonification, manganese, iron, algal bloom, dissolved oxygen and temperature.
- Use additional hypochlorite to instigate the conditions for orange water.
- Send range of samples to laboratory; test for ammonia, nitrates, manganese and iron (include other elements high in your catchment WQ profile).
- Introduce hypochlorite before sedimentation tank.
- Increase dosage to enable flocculation. Check with bench hypo additions and turbidity meters in final water.

### **Securing a second supply**

- Replacement and extension
- The existing single bore Shirley Park.
- Program to ensure supply sponsored by the NSW Department of Planning, Industry and Environment
- Extensive geological search and ground truthing
- Drilling
- Infrastructure
- Water quality decreasing supply and bore water.
- Aeration
- Fishy coalmining canaries.

### **Communication**

- Release regular information
- Respond to hysteria
- Be aware of the pitfalls of social media
- Acknowledge fear

## **Learnings**

### **What to do next time**

- Placement of additional (more robust) organic traps.
- Booms and floating silt fence.
- Although Tenterfield has kept up with media releases; Pre-warnings of the effects to supply would have potentially reduce community concerns.
- Start investigation testing earlier.

### **More information**

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