MANAGING WATER QUALITY IN THE HUON RIVER CATCHMENT

In January 2019 bushfires affected several TasWater drinking water catchments including the Huon River catchment. The Huon River catchment supplies 8,400 customers and includes world heritage national park and forestry. 65,500 hectares burnt, around 25% of the catchment, and 100 km of river frontage was impacted.

Numerous bushfires started across Tasmania on 16 January 2019 following extensive dry lightning strikes. Some of these fires developed into large blazes that continued to burn into April 2019 (after danger to infrastructure and communities had passed).

Fires near Huon Valley, Bronte Park and Zeehan had direct impacts on TasWater drinking water catchments. Fires also impacted the outer reaches of the Dover, Wayatinah, Ouse and Bryn Estyn catchments.

The Huon River catchment supplies 8,400 customer and was extensively affected by fire. Approximately 65,000 hectares burned, which is about 25% of the total catchment area. This is inclusive of major tributaries such as the Picton, Weld and Arve Rivers and includes several lengths of river frontage along the Huon River and the major tributaries. Cumulatively 100km of river burned along these rivers. The fire front reached about 10km from the Glen Huon Water Treatment Plant.

In May 2019, TasWater were escorted by Parks Tasmania into burnt areas in the Huon River catchment to assess fire impacts. In general, the burn intensity was variable, with only smaller pockets of much degraded catchment identified. Despite this, the likelihood of impact to water quality was considered possible depending on intensity of rain events. Between January and May 2019 there were no large rain events.

In the Huon River catchment access to river frontage is restricted (no access roads), which meant that catchment interventions were deemed impractical.

Instead of catchment interventions, TasWater focused their efforts to improve the understanding of source water quality and to increase the robustness of the Glen Huon Water Treatment Plant.

Initiatives undertaken by TasWater between April to June 2019 included:

Weather forecast monitoring

- Monitoring of the weather and storages were kept full if wet weather was forecast (>20 mm/day).
- Turn the water treatment plant off if raw water turbidity starts to rise significantly. The Huon Scheme has two to three days storage to allow the water treatment plant to be turned off or de-rated to ride out short term turbidity spikes.

Water treatment optimisation

- A remote catchment turbidity meter was deployed 8 km upstream of the water treatment plant. Monitoring turbidity was intended to give operators advanced warning of turbidity spikes and enable them to prepare the water treatment plant. This option was limited by 3G mobile coverage in the catchment.
- Operating instructions were developed to assist with de-rating the water treatment plant in the event of high raw water turbidity.
- Jar testing methodology was improved.
- A new polymer for more robust coagulation was implemented
- A new static mixer for more robust coagulation was installed.
- SCADA integration and alarming of raw water analyser to state-wide 24-hour Operational Control Centre.

Increased treatment

- Preparatory work was undertaken for the re-instatement of the old clarifier to pre-treat water before feeding it into the head of the existing water treatment plant.

Alternative supply option

- An interconnection to the neighbouring Rocky Creek water system was prepared to ensure the supply of clean water to the main road of Huonville including schools and shops.

Learnings

- Bushfire preparedness planning needs to include catchment risks, in addition to the asset risks and needs to begin earlier.
- Negotiate access to impacted catchments earlier to assess the potential impact on water quality.
- Have better contingency plans in high risk areas.
- Remember that people are willing to help.

More information

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