

# Water quality (surface water and groundwater)



This fact sheet explains what was assessed, what was found, and how potential impacts to surface water and groundwater would be managed.

### At a glance



Water quality is generally good



No significant water quality issues identified



Construction impacts would be local and short term



Water quality will be monitored



Planned water releases support river health



No ongoing water impacts expected during operation

### Why this matters to the community



Water plays an important role in the Tarraleah area. Streams, rivers and downstream storages support aquatic life, recreation, irrigation and communities downstream. Groundwater feeds streams and wetlands and supports some vegetation communities on the plateau.

The community wants to understand how construction activities may affect rivers, streams, wetlands and groundwater, and how any risks would be managed.





## What was studied and what was found



### The water environment

The Project area includes:

- six permanent and ephemeral streams
- creek crossings and tributaries
- water storages
- two main groundwater aquifers are recharged by rainfall and contribute water to streams, wetlands and the River Derwent.

### Existing water quality

We completed baseline water monitoring to understand current conditions. This included sampling surface water upstream and downstream of the project area, along with groundwater and surface water monitoring.

The monitoring shows:

- surface water quality is generally good
- nutrient levels are low
- turbidity (sediment in the water) is low
- pH is slightly acidic to neutral, which is typical for the region
- some seasonal variation occurs, with slightly higher nitrate levels and turbidity in winter and spring.

### Surface water – potential construction impacts

We assessed how construction activities could affect surface water quality. Key indicators included:

- Erosion and sediment (turbidity)
- Hydrocarbons, such as fuels and oils
- pH
- Metals
- Nitrates, particularly from blasting activities.

Without management measures, construction could result in:

- increased sediment entering streams
- changes to water chemistry
- introduction of contaminants such as hydrocarbons.

Changes in water quality can affect aquatic ecosystems, including insects, native crayfish, fish and platypus.

### Groundwater – potential construction impacts

To understand how construction could affect groundwater, our assessment involved:

- studying local geology and ground conditions
- monitoring groundwater and surface water

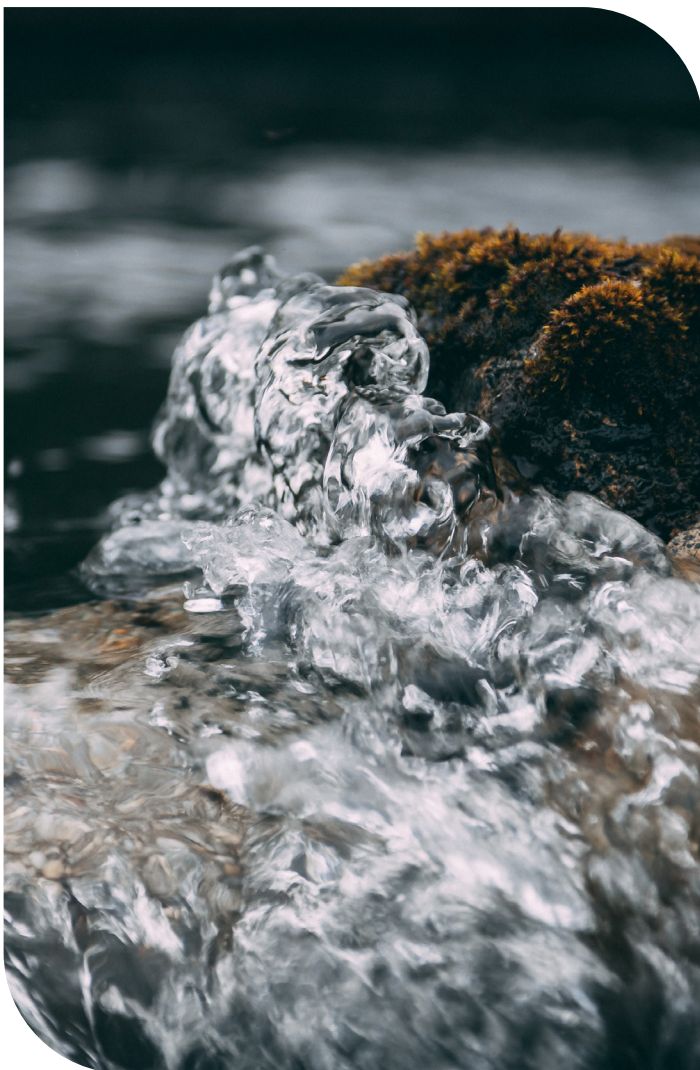
- understanding how groundwater moves through the area
- using computer models to assess tunnelling impacts during construction and operation.

The assessment found:

- groundwater flows naturally toward streams and wetlands on the Tarraleah plateau
- deeper groundwater flows toward the River Derwent
- during construction, groundwater seeping into tunnels may cause temporary and localised lowering of groundwater levels near tunnel works.

Groundwater quality could be affected during construction if surface water containing higher levels of contaminants seeps into the ground.

No ongoing impacts to groundwater quality are expected during operation.



## How we will manage impacts



### During construction

Water impacts would be managed through plans and controls, including:

- a Water Management Plan, setting out how runoff, sediment, pH and water treatment would be managed
- Erosion and Sediment Control Plans specific to each work area
- a best practice Nitrate Management Plan to manage nitrates from blasting activities
- a Groundwater Management Plan to protect groundwater from contamination during construction.

Water quality monitoring would occur before, during and after construction to check that controls are working. This includes monitoring surface water quality, groundwater levels and groundwater quality.

### Remaining impacts

With the proposed measures in place:

- Remaining impacts to surface water and groundwater are not expected to cause environmental harm.
- There may be a small increase in dissolved nitrogen (mainly nitrate) during construction and shortly afterwards, which would be diluted within the wider Derwent catchment.
- No ongoing water quality impacts are expected during operation.

## About the Environmental Impact Statement

We have prepared a range of documents to provide information at different levels of detail, so you can choose what best suits your interests and needs.

Separate, topic specific fact sheets are available for key aspects of the EIS. They explain what was studied, what was found, and how potential impacts would be managed, in plain English. The fact sheets don't cover all aspects of the proposal or all potential impacts assessed as part of the EIS.

A Summary EIS is available and provides an overview of all topics assessed as part of the EIS. The Full EIS contains detailed technical studies, data and assessments considered as part of the environmental assessment process.

## Have your say

The EIS is on public exhibition, and submissions are welcomed from anyone in the community. All feedback received will form part of the EPA's assessment of the project.

Scan the QR code to visit our website:

- View the Summary EIS and full EIS
- View our Fact Sheets on a range of EIS topics
- Find out how to make a submission.



## Questions or concerns?

You are welcome to contact us by phone or email if you would like more information or have a question about the project.



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