

Field in Focus - Water and Geology

What are we doing?

This project provides infrastructure to deliver water to nine high-value floodplains.

The infrastructure will be used to provide water at a frequency, duration and interval required to support the ecological needs of the floodplain. This water will bring new life and help these ecologically significant floodplains to survive and build resilience to cope with future dry conditions and drought.

We aim to provide positive social and economic outcomes at the local and regional scale, whilst minimising potential impacts on existing infrastructure and open spaces.

This fact sheet is part of the 'Field in Focus' series, covering:

- Surface water, groundwater, and geology.
- Biodiversity.
- Land use, community, and business.
- Cultural and historical heritage.



What are we investigating?

We are investigating the potential risks associated with changes in surface water and groundwater so that the intended benefits can be achieved.

We are considering the potential effects associated with construction activities (i.e., the building phase) and future environmental watering (i.e., the operations phase).

Our studies are focused on:

- The interaction between surface water and groundwater.
- The potential cumulative changes associated with these nine projects as well as other existing and proposed developments in the region.
- The expected benefits to the floodplain resulting from the changed hydrological regime.
- The effects on:
 - River and groundwater salinity.
 - Downstream water environments.
 - Water quality.

We will take particular care to assess the potential for:

- Erosion, sedimentation, and landform stability changes.
- Contaminants and runoff into waterways.
- Algal blooms, dissolved oxygen, and blackwater events.

How are our specialists investigating these issues?

Our specialists carry out their investigations using a mixture of techniques including desktop studies, modelling, and carrying out field studies. The team also undertake risk assessments for each discipline, including how the risks can be mitigated.

Our investigations generally involve:

Surface Water

- Reviewing available literature (such as historical occurrences of algal blooms and blackwater events) and currently available data (such as water quality).
- Characterising the hydrological regimes for the floodplains.
- Developing hydrological models.
- Assessing the potential for adverse effects during operation including consideration of turbidity, salinity, acidity, algal blooms, and black water events.

Groundwater

- Reviewing currently available data (such as groundwater monitoring bore data sets).
- Fieldwork to collect additional data.
- Developing groundwater models.
- Assessing potential changes to groundwater levels, water quality and salinity due to the construction and operation of the works.
- Assessing the potential impacts from discharge into the Murray River and deeper creek lines.

Geology, Soils and Contamination

- Reviewing the existing ground conditions and soil properties at each site.
- Desktop assessment of known and potential contaminants of concern.
- Reviewing project works that are likely to involve excavation, handling, storage, or transport of soils.
- Assessing the potential geomorphological changes as a result of the changed watering regime, such as erosion.
- Site inspection at selected areas of each site to confirm geomorphic features, land instability indicators, and potentially contaminated land.
- Soil sampling and laboratory analysis to confirm soil properties.
- Assessing the potential for acid sulfate soils and contaminated sediments.



How will these assessments be used?

These assessments are part of the Environment Effects Statements (EES) and Environment Reports (ER) that inform statutory approvals required for the projects. This includes planning scheme amendments under the *Planning and Environment Act 1987* and Commonwealth environmental approval under the *Environment Protection and Biodiversity Conservation Act 1999*.

You will have an opportunity to make a submission on the EESs, ERs, and supporting approval documents, and your submission will contribute to the statutory decision-making process.

Find out more

To find out more about the impact assessment process, please visit the 'Planning/Approvals' tab at www.vmfrp.com.au.

To provide feedback, email info@vmfrp.vic.gov.au or contact the Communications and Engagement Project Officer on **0428 516 233**.

If your query relates specifically to VMFRP proposals at Guttrum-Benwell or Gunbower, contact the Senior Engagement Officer at North Central Catchment Management Authority on **0439 554 186**.

