



Land

The Coordinator-General has completed his evaluation report for the Traveston Crossing Dam Stage 1. This information sheet has been prepared as a brief summary and guide only. It is not a complete re-statement of the report. For the full report, visit www.dip.qld.gov.au. For further information about the project visit www.qldwi.com.au.

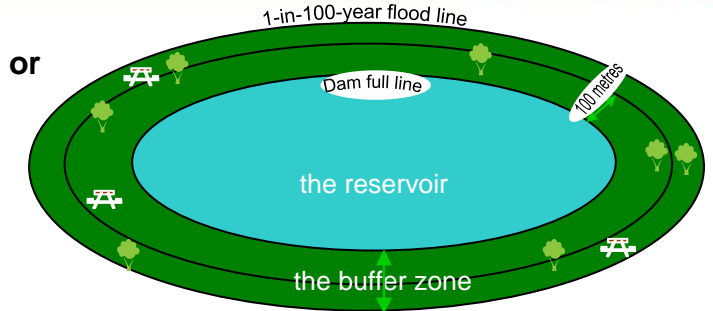
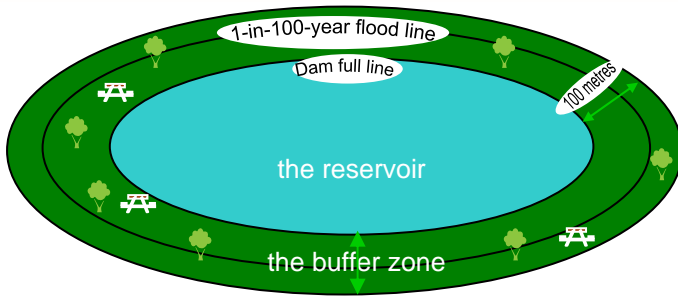
To ensure the Traveston Crossing Dam is delivered successfully and is favourable to the Mary Valley's natural surroundings, the project requires land use changes across a number of areas. Current land uses in the project area are largely agricultural pursuits. These uses will change after construction of the dam wall, dam access road, relocated roads and other infrastructure, and the storage of water behind the dam wall (reservoir). Land use around to the reservoir will also change to allow for a buffer area to protect water quality, allow for temporary flooding and accommodate areas of protected waterside habitat, wildlife corridors and vegetation offset areas. The inclusion of this buffer is one of the Coordinator-General's requirements.

Project area

The Traveston Crossing Dam will submerge Mary River's main channel for a length of some 36.5 km, creating a body of open water for approximately 20 km of the main channel of the Mary River. The remaining part of the submerged main channel and its various streams will retain river-like characteristics. The project area identified in the environmental impact statement included:

- reservoir and dam wall construction site (extending over 3055 hectares across 232 properties)
- reservoir buffer zone (around the outside of the reservoir) extending over approximately 2500 hectares across 67 properties
- dam access road covering 18 hectares on 1 property
- relocating roads and infrastructure covering 765 hectares across 34 properties.

The reservoir's buffer area covers the land directly around the dam reservoir. The buffer area is defined as land between the 'dam full line' (full supply level) and either 100 metres out from the dam full line or the '1-in-100-year with-dam' flood line, whichever is larger (see diagram below). At certain locations around the dam, this line may be adjusted to account for local topography, property boundaries and other features.



Substantial areas of protected waterside and wildlife corridor vegetation will be created or enhanced, however the reservoir will change some existing waterside vegetation and local creek landscapes.

Compulsory conditions have been developed to ensure landscape changes are positive and any adverse impacts on both habitat and visual amenity values are limited. These conditions include integrating the new water supply structures into the landscape and developing landscape design plans.

Land use plan

A land use master plan for all land within the project area must be developed before construction on the dam wall begins. This plan will ensure all requirements of the project and the Coordinator-General's land-use conditions have been properly considered. The plan must address all components of the project infrastructure, buffer requirements, protected waterside habitat and wildlife corridors, visual impact measures, greenhouse and vegetation offset areas, non-indigenous cultural heritage sites, accommodation areas, and recreation and tourism initiatives.

Land management

As part of the project the proponent is required to develop and implement a community and economic development program. This program includes packages to the value of at least \$12.2 million to assist those landholders adjoining the river system in the catchment or adjoining the reservoir to develop farm management plans. These farm management plans will help minimise environmental impacts from farming activities, while improving farm productivity and agricultural opportunities.

The project's compulsory conditions also include requirements for the proponent to actively engage with affected landholders. In doing so, they must minimise disruption and facilitate, where possible, the consolidation of smaller lots that may occur as a consequence of the project into larger lot sizes viable for rural uses. Where practical, this should particularly support the creation of viable lot sizes of 100 hectares.



Traveston Crossing Dam Stage 1 Coordinator-General information sheet



Land restoration, enhancement and protection

The Coordinator-General's compulsory conditions are designed to create, preserve and restore land and water habitats. Native vegetation around the dam will be protected and restored and will incorporate land based movement corridors for animals alongside and around the reservoir area. The protected areas are indicated on the attached map.

The protected waterside habitat zones are located:

- along the upstream sections of the reservoir buffer area in the Mary River and its streams—with a minimum width of 60 metres from the waterway edge
- on the western side of the reservoir—covering 80 per cent of the western buffer area, including a largely continuous wildlife corridor at least 100 metres wide threaded through this western area to provide connections between vegetated habitat around the dam and habitat areas downstream and upstream of the dam wall
- on the eastern side of the inundation area—covering 30 per cent of the eastern buffer area to allow for future alignment of the Bruce Highway and ensuring highway users have views across the reservoir
- immediately downstream of the dam wall—with a minimum width of 60 metres from the waterway edge on both banks of the Mary River to one kilometre downstream.

To enhance land animal movement to the east and west of the dam, corridors of largely continuous native vegetation will be provided. These will be at least 100 metres wide and will stretch from the waterside habitat around the reservoir to West Cooroy State Forest on the eastside and either the Imbil State Forest on the western side or Amamoor State Forest to the north east.

A habitat restoration plan covering these protected habitat areas must be developed for the Coordinator-General's approval. This plan must contain a set of measurable rehabilitation benchmarks, including benchmarks for rehabilitating, enhancing and protecting habitat that must be met (and independently certified) before approval is given to start construction of the dam wall.

Additionally, protected refuge areas for animals in waterside habitat and in-stream—for species such as the lungfish, Mary River cod, Mary River turtle and giant barred frog—must be provided for outside the project area. A \$10 million catchment enhancement program must be implemented in areas identified as important for these species. A steering committee will be established to guide and inform the program. The committee will contain representatives from community groups and relevant government agencies involved in water and land management in the Mary River region.



Sediment management

Dams act as natural sediment traps. Sediment settles in the dam as the speed of water slows down in the zone where the river meets the water stored in the dam. This could potentially reduce the available dam storage volume by 0.15 per cent each year. It could also mean the amount of sediment contained in the water immediately downstream of the dam is reduced, increasing the potential for erosion downstream of the dam wall. This potential for increased erosion, known as 'clearwater scour' may occur from the dam wall downstream to the Amamoor Creek confluence. While potential clearwater scour issues must be properly managed, removing sediment from the water does improve water quality, providing benefits for native aquatic species and waterside vegetation downstream of the dam.

The Coordinator-General's conditions require monitoring of sediment moving through and downstream of the reservoir area. They also include requirements for further assessment of the likely sediment moving and settling into the upper parts of the reservoir and possible river bed and bank protection measures that may be required downstream of the dam wall.

Monitoring sediment movement in the upper reaches of the reservoir will help to determine anticipated quantities of useful soil, sand and gravel that may be extracted from the in-flow area to the reservoir when the dam is operational. This will help maximising the dam's available capacity and possibly provide materials for use by the construction industry.

The scale of sediment transport impacts on the Mary River will reduce with distance downstream from the dam. This is due to sediment being re-introduced to the water from existing land uses downstream of the project. As such, any benefits from improved water quality resulting from water released from the dam will diminish rapidly.

There may be minor reductions in sediment supply to the ocean where it meets the Mary River and to the Great Sandy Strait. Any impacts of this reduced sediment supply are expected to be insignificant, as current sediment levels in the Mary River are far greater than those that would have been found prior to European settlement.

Construction works on the dam must incorporate erosion and sediment control plans. Land conditions must be closely monitored to detect and deal with any instances of erosion in an appropriate and timely way.



Land structure

The dam is situated in a low earthquake-risk area. Geological studies at the dam site have noted shear zones in the basement rock, however these structures have been solidly fused for millions of years with no movement in at least the last 20 000 years. These studies will inform the design of the dam to ensure the structure withstands ground movement considerably greater than what is expected. A seismic monitoring station will be installed in keeping with dam safety requirements.

Contaminated land

Land investigations for the project's environmental impact statement included a risk assessment of 82 land sites identified as potentially contaminated. The investigation revealed 29 sites were medium risk and 53 sites were considered high risk contaminated land sites.

Consequently, contaminated land investigations and remediation works must be satisfactorily completed before storage of water commences, in accordance with the *National Environmental Protection Measure* and guidelines from Department of Environment and Resource Management,.

The Coordinator-General has required that all investigations and proposed remediation works for sites containing contaminated land must be reviewed and approved by a 'third party reviewer' as defined by the Department of Environment and Resource Management.

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