



# Reservoir works

## Rationale

Candowie Reservoir, located in the Bass Hills of Almurta, is fed from the Tennent Creek catchment and supplies water to Bass Coast communities located from the Gurdies to Archies Creek and Phillip Island.

Storage capacity pre-upgrade is approximately 1 years worth of water for the region, holding 2263ML.

Flood events on Tennent Creek over recent years, as well as the inability to capture 3000ML of excess catchment run off per year, prompted Westernport Water to seek approval to increase storage in Candowie Reservoir from **2263ML to 4463ML**, effectively increasing the holding capacity to 2 years worth of water for the region.

Furthermore, our water supply vulnerability in the face of a drought period and growing population was exposed in 2006/07, when the reservoir level fell below 7%.

The Candowie Upgrade project is a key component in our *Water Supply Demand Strategy* and features in the *Central Region Sustainable Water Strategy* which requires Water Corporations to **provide adequate water supply to 2055**, where our population is expected to increase 58% by 2030, and 166% by 2055.

Increasing storage capacity will enable Westernport Water to optimise the use of all available water sources from the Tennent Creek catchment, Bass River, and the Corinella Borefield. This additional reservoir volume will also provide capacity to store supplementary water from the Metropolitan Pool pipeline.

Candowie Upgrade will support the collection of locally available, low cost water, thus reducing exposure to future water restrictions and reliance on external water sources.

## Principle Elements

- ◆ Raise dam wall height by 3 metres
- ◆ Raise the Outlet Tower and replace the access walkway
- ◆ Construct a new Wash Water Holding Tank
- ◆ Raise the spillway crest and adjacent spillway walls
- ◆ Upgrade existing infrastructure complying with ANCOLD dam safety standards, to cope with a '1 in 100,000 year' flood event, and improve earthquake safety
- ◆ Perimeter works including land acquisition, tree removal, revegetation, access road, fencing, and augmentation of Grantville - Glen Alvie Road

Cost: \$8.9 Million  
 Timeline: September 2012 - June 2013  
 Achievements: Project tracking to be completed by beginning of Winter



Project Team

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# CANDOWIE RESERVOIR UPGRADE PROJECT

## Perimeter works



Reservoir Perimeter works include :

- ◆ Acquisition of surrounding farmland
- ◆ Removal of trees and surrounding vegetation within high waterline
- ◆ Construction of an Access Road on perimeter of reservoir
- ◆ Augmentation of Grantville-Glen Alvie Road
- ◆ Secure fencing
- ◆ Vegetation Removal in flood zone and Revegetation of buffer zone

### Land Acquisition & Road Augmentation

Westernport Water acquired 31.8 hectares of land surrounding the reservoir that will be affected by the new high waterline to create a 'buffer zone' between the reservoir and farming activities.

Due to potential flooding of the Grantville - Glen Alvie Road north of the reservoir, 800 metres of the road will be raised up to 1 metre to allow for unobstructed public access. This project has been supported by the Bass Coast Shire Council.

### Water Quality

Westernport Water are committed to further improving water quality using a variety of methods including revegetation, education and land management practices, as well as future treatment facility upgrades and additions.

Water Quality improvements include:

- ◆ Natural filtration by improving surrounding vegetation.
- ◆ Prevention of animals accessing the waters edge.
- ◆ Working with Landcare to improve local farming practices.

### Tree clearance & Re-vegetation

To manage water quality, 28.2 hectares surrounding the reservoir will be re-planted with naturally occurring vegetation. This will offset the removal of 11.7 hectares of vegetation that would not survive long-term flooding within the new waterline, thus affecting water quality if left unattended.

Bass Coast Landcare Network have been engaged to carry out the revegetation over 3 years including the planting of 70,000 tubestock plants and 14 kg of seed. Currently we are into the 2<sup>nd</sup> year of the plan with two areas east of the reservoir undergoing planting, and the remainder to be finished once perimeter track and associated works have been completed.

Pest plant and animal programs will be monitored under *The Corporation's Annual Operational Plan* to manage natural land assets with the aim to improve biodiversity.



A **Community Planting Day** will be arranged in the future with the Bass Coast Landcare Network once the site has been finished and safe for public access.



### Plant Species

Revegetation has been designed based on *Ecological Vegetation Classes* used for biodiversity planning and conservation assessment.

Swamp Scrub: Paperbark, Swamp Gum and grassy understorey  
*majority of area to be revegetated*

Lowland Forest: Messmate stringy bark, dense shrubs & groundcover

Damp Forest: Tall Eucalypts, broad leafed shrubs and understorey

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