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Water resources - Overview - Victoria



Groundwater Management Unit: Deutgam

Introduction

The Deutgam GMA, covering an area of 50 km², is located to the south east of the City of Werribee on the Werribee River. It is located on the Werribee Delta and comprises the Werribee Irrigation District (WID), which has a high concentration of market gardens irrigated using a combination of reticulated surface water and groundwater.

The main aquifer in the area is the unconfined Werribee Delta aquifer from which most of the groundwater extractions occur. The aquifer is predominantly comprised of sand and gravel lenses situated within clays and silts which have been deposited in a deltaic environment. It reaches a maximum thickness of 30 metres near the coast. Coincident with this thickness, a vertical limit of 30 metres has been placed on the Deutgam GMA. To the east of the River the aquifer thins and wedges out west of Point Cook, and to the west the limit of deposition occurs just west of Little River. The variable nature of the deltaic sediments is reflected by the aquifer parameters which vary significantly. Within the coarser sand horizons, the hydraulic conductivity ranges from 10 to 15 m/day, with a specific yield of 0.01 to 0.20, however the overall hydraulic conductivity of the aquifer system is believed to be no greater than 5 m/day with a specific yield of 0.01. Typical bore yields are less than 5 litres per second, and in some cases yields of up to 15 litres per second have been recorded. Watertables are generally between 4 and 7 metres depth. Recharge to the unconfined aquifer occurs largely via direct infiltration from rainfall and from surplus irrigation water.

A secondary aquifer system is found within the underlying Newer Volcanics basalts, however, low bore yields and high groundwater salinities throughout the basalt have resulted in limited exploitation of this groundwater resource.

Vital Statistics:

Area:	50 Km ²
Total water allocated:	no data
Total water consumed:	6,788 ML/yr
Average salinity:	1,150 mg/l
Sustainable yield:	2,400 ML/yr
Depth to top of aquifer:	5 m