

# Groundwater Occurrence in the Westernport Basin

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Note Number 7

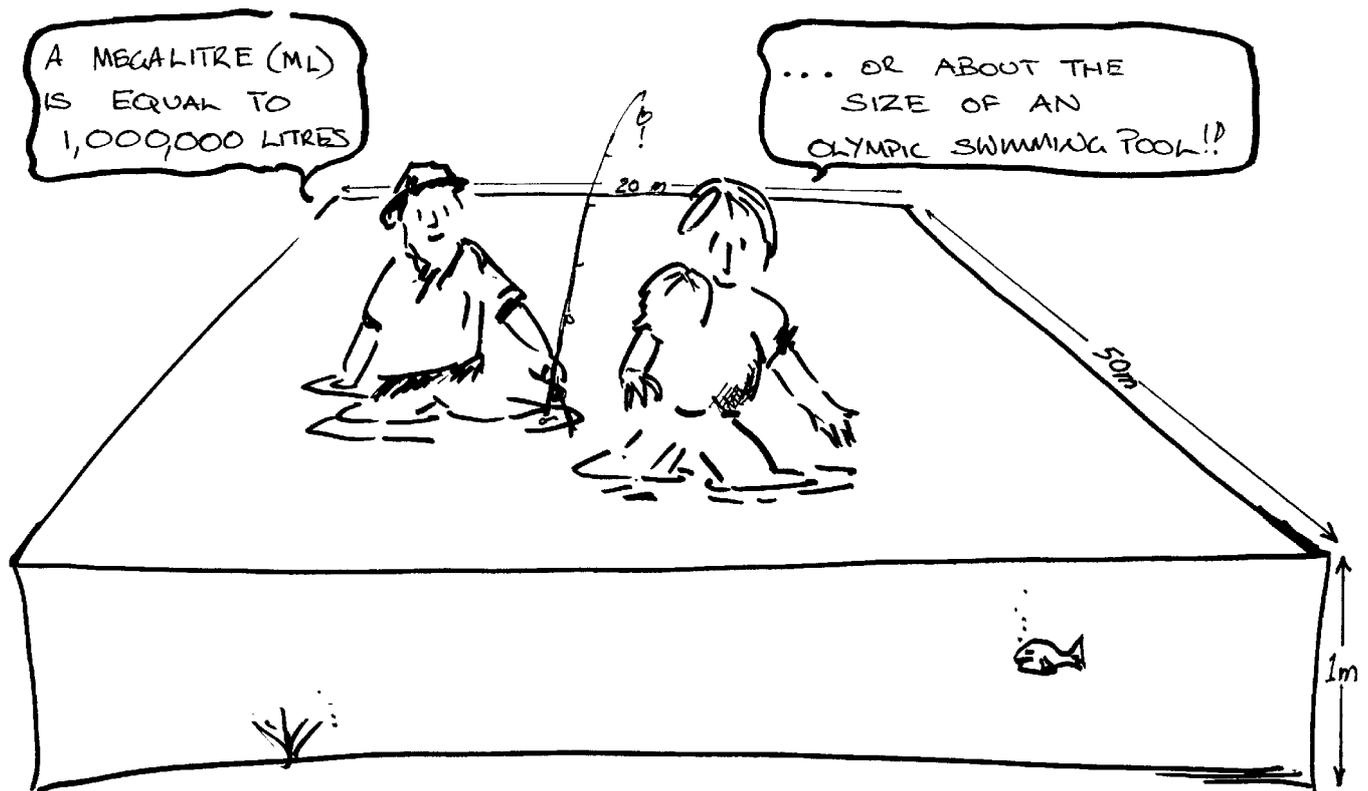
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Within the Westernport Basin, much of the groundwater resource is freshwater. Each year approximately 40 % of the available renewable resource is extracted from the 5000 or so groundwater bores in the region.

The table on the next page contains the general hydrogeological details for the main aquifers in the Westernport Basin. It can be used to assess the rock types and aquifer characteristics of a particular area.

Because bore yield, aquifer depth and water quality can vary locally, even on adjacent parcels of land, if you intend to tap groundwater you are advised to obtain more accurate information about the groundwater on your property. See Groundwater Notes Number 17 in this series about where you can get groundwater advice.



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## Generalised hydrogeology of the main aquifers in the Westernport Basin

Geological unit forming aquifer	Main occurrence	Depth to aquifer	Aquifer thickness	Rock types	Aquifer type and form	Common salinity range (mg/L TDS)	Range of bore yields (L/sec)	Groundwater uses
<b>Dune deposits</b>	small occurrence in the Cranbourne and Lang Lang areas	outcropping	thin, mostly less than 6 m	sand, medium to coarse quartz	unconfined sand aquifer, sheet-like form	less than 1000	up to 2.5	stock and domestic supply
<b>alluvial deposits</b>	Longwarry to Dalmore	outcropping	less than 7 m	clay, sand and gravel	unconfined sand and gravel aquifers of shoe-string form interbedded in clay	highly variable 500 to 5000	up to 10	stock and domestic supply
<b>Westernport Group (Baxter, Sherwood and Yallock formations)</b>	occurs throughout the Westernport basin	outcropping to sub-outcropping over most of the eastern part of the basin; covered by up to 75 m of clay in the western half	20 to 175 m	sand, gravel, limestone, clay, silt and lignite	combined aquifer system of sheet-like form, which is generally unconfined except where overlain by clayey soils	300 to 3000	10 to 40	mainly used for irrigation particularly in the Dalmore-Cora Lynn area; elsewhere used for stock and domestic supplies; this aquifer supplies more than 80% of the groundwater used in the Westernport Basin
<b>Older Volcanics</b>	widespread occurrence throughout basin	outcrops in Cranbourne area and along Heath Hill Fault, covered by up to 250 m in central part of basin	10 to 75 m	basalt, basaltic clay	fractured basalt aquifer confined by basaltic clay and overlying sediments	less than 2000 in western half of basin; 1000 to 2000 in eastern half	2 to 25	irrigation of market gardens in the Cranbourne-Clyde area, and stock supplies in an area north west of Cora Lynn
<b>Childers Formation</b>	main occurrence is in Yallock-Yannathan-Lang Lang area	50 to 250 m (underlies Older Volcanics)	5 to 50 m	sand and gravel with lignite and clay beds	confined sand and gravel aquifer	500 to 2000	2.5 to 25	generally not used except to provide water for Lang Lang town supply

\* subcropping means the formation is present below a shallow cover of soil.

Reference source: Introduction to Victorian Geology, 1991. Geological Society of Australia Inc. (Victorian Division).