



SOUTHWEST TASMANIA INFERRED GROUNDWATER MAP

SCALE 1:250,000



NOTE: There are very few water holes in this region due to its remoteness, high rainfall and availability of the surface water. The best known aquifers are those in the Tertiary and Quaternary sediments near Strahan. Similar rock types occur to those in other parts of Tasmania and groundwater prospectivity in these other areas has been used to predict the groundwater prospectivity in Southwest Tasmania. Groundwater quality (expressed as Total Dissolved Solids mg/L) may be better than in some other parts of Tasmania due to the generally higher rainfall and higher recharge potential. In mineralised areas where acidic conditions prevail, heavy metal concentrations may be significant. Higher rainfall can also change groundwater protection (compared to low rainfall areas in other parts of Tasmania) as a result of greater weathering potential, increased infiltration and an accumulation of the weathered material on the lowlands. The groundwater prospectivity legend shown on this map is a state wide legend which contains data on generalised aquifer characteristics that may not be directly relevant to this map. Statistical data and aquifer characteristics provided should be used only as a guide to conditions that may prevail on this map.

BOREHOLE YIELD (Map for borehole salinity - TDS not produced)

Bore Location Accuracy - 500 - 2000 m	Litres / second	Potential usage of groundwater based on borehole yield
○	•	Yield Unknown
○	•	0 (Dry borehole)
○	•	<= 0.05 Limited use for domestic and stock
○	•	0.05 - 0.5 Domestic, stock, garden
○	•	0.5 - 1.5 Domestic, stock, garden, limited irrigation
○	•	1.5 - 5.0 Domestic, stock, garden, small area irrigation
○	•	5.0 - 10.0 Domestic, stock, garden, moderate area irrigation, small communities
○	•	> 10.0 Domestic, stock, garden, larger area irrigation, small towns, supplement to larger towns

Outputs of bores are those supplied by drillers and are mostly the result of short term pumping measurements. Outputs may not be sustained for long periods of continuous pumping. Boreholes reported as dry holes usually have small unreported yields < 0.05 L/s. The bores shown are those recorded in the Mineral Resources Tasmania groundwater database (BORIS). Conversion factors - 800 gallons per hour - 8.6 millimetres per hectare per day - 0.84 acre inches per day.

AQUIFER TYPE	PROSPECTIVITY (State of Tasmania)	ROCK GROUPS	REGION (LGA)	NUMBER OF BORES	PERCENTAGE SUCCESSFUL (YIELD > 0.05)	AVERAGE YIELD (L/s)	MAXIMUM YIELD (L/s)	SALINITY RANGE (mg/L)	GENERAL AQUIFER CHARACTERISTICS	VULNERABILITY TO POLLUTION
POROUS (INTERGRANULAR)	HIGH	Quaternary peat deposits marginal to the coast consisting of fine to medium grain sand.	SE 30 NE 5 NW 60 SW 75	5	75	0.52 (12)	3.78	210 - 5000 *	Aquifers are contained in surface deposits up to about 15 metres thick. Yields depend on grain size and thickness of saturated sand and yields reduce as clay content of sand increases. Groundwater is usually extracted using shallow open bores installed to depths of up to 7 m. A single Quid in a prospective area usually yields 0.5-1 L/s, a list of 10-20 open bores may yield 5-15 L/s. Aquifers are mostly unconfined.	High
POROUS (INTERGRANULAR)	MODERATE	Quaternary coastal sand deposits consisting of sand, clayey sand, silt, silty sand and gravel underlying peat near the coast. Probable marine origin.	SE 48 NE 101 NW 54 SW 86	43	86.1	0.31 (11)	0.83	140 - 11000 *	Aquifers are contained in surface deposits of limited thickness (10 - 15 m). Yields depend on grain size, clay content and thickness of saturated sand. Yields reduce as clay content of sand increases (large volume excavations are used to water variations in the case). Quality is variable and in some areas high groundwater salinity is causing development of dryland salinity. Aquifers are mostly unconfined.	Moderate to high. Depends on permeability of the material that overlies the aquifer.
POROUS (INTERGRANULAR)	LOW-MODERATE	Quaternary alluvium (silt, sand and gravel with varying clay content) and silt (siltstone deposits). Silt, clay and fine sand, silty sand, silty silt and siltstone. Minor windrow sands on sloping bedrock.	SE 34 NE 25 NW 80 SW 96	61.8	0.77 (18)	5.06	210 - 8200 *	2160	Yields in alluvium are variable and often low due to relatively high clay content. Useful yields are obtainable in areas with low clay content. Tals are unconfined and are mostly unconfined. Water quality is variable, usually good in high rainfall areas and in the vicinity of the streams. Aquifers are unconfined to confined.	Low to high. Low where clay material overlies aquifer. High where there is no clay.
POROUS (INTERGRANULAR)	LOW-HIGH	Tertiary sandstone, clay sand and gravel of non marine origin (locally siltstone). Minor siltstone (marine origin). Variable thickness up to several hundred metres.	SE 138 NE 25 NW 122 SW 88	52.9	1.96 (80)	15.17	530 - 5800	25 - 2160	Yields are variable, usually high in the areas where clean sand and gravel layers are about 5 m or greater in thickness (Scottsdale, Sheffield, Devonport, Campbell, Epping, Currie, etc.). Yields are related to thickness of tertiary sandstone with increased clay content (Port Sorell, Penna and Currie). Development of these in thick fine grained sediments generally requires special drilling skills. Water quality is good in the north and north-west of the state and is usually suitable for all purposes. In the south eastern part water quality is variable and often mineral salinity levels that seriously limit use of the groundwater. Aquifers are often confined.	Low to high. High where clay overlies aquifer. High where gravel aquifers come to the surface.
FRACTURED ROCK (Siltstone on some horizons)	HIGH	Tertiary mudstone, siltstone and sandstone (often heavily silty mudstone, conglomerate and siltstone. Mainly marine origin).	SE 178 NE 207 NW 207 SW 122	76	1.33 (136)	25.3	116 - 1700	91 - 4800	Yields suitable for most domestic and stock purposes. In some cases sufficient for irrigation (up to 25 L/s). Quality is good in the north and the north-western water is usually suitable for a wide range of purposes. In the south eastern water salinity restricts use in many locations. Test hole records small yielding zones often yield poorer quality groundwater than deeper higher yielding zones. Aquifers are mostly unconfined to confined locally.	High - unless a layer of low permeability material overlies the aquifer.
FRACTURED ROCK	MODERATE-HIGH	Ordovician to Devonian turbidite sequence of sandstone and mudstone (Mathinna Supergroup). Devonian Piceance mudstone, siltstone, quartzite and dolomite. Neoproterozoic dolomite.	SE 6 NE 349 NW 1086 SW 1700	16	18.7	3.78 (1)	3.78	61 - 3300	Yields of up to 25 L/s are adequate for crop irrigation in some cases, domestic and stock yields more common. The Mathinna Supergroup is one of the more prospective units in the state. Quality is generally suitable for a variety of purposes, although water can be more saline especially near coastal areas (Birdport, Wynmouth etc). Aquifers are unconfined to confined.	Very high - unless a layer of low permeability material overlies the aquifer.
FRACTURED ROCK	HIGH	Tertiary basalt.	SE 181 NE 148 NW 16 SW 51	81.8	3.32 (147)	25.27	560 - 8300	40 - 2780	Usually high prospective yields sufficient for domestic and stock purposes, small to moderate irrigation quantities are often obtained (yields up to 18 L/s). Aquifer often intensely fractured and vesicular. Yields are generally higher than for other fractured rock aquifers. Probe to overlie in low rainfall areas (Panna Road near Scott and Campbell Town). Quality is usually suitable for most purposes in the north and west and in the low rainfall southern part of the state salinity is moderate to high and restricts water use. Aquifers can be unconfined to confined.	High - unless a layer of low permeability material overlies the aquifer. Very occasional deep clay soils may offer some protection and lower variability.
FRACTURED ROCK	MODERATE	Jurassic-dolerite. Tertiary basalt - Mathinna, Tertiary basalt - Scottsdale, Ringoonia, Tamar and Devon Crag.	SE 480 NE 148 NW 16 SW 51	63.1	1.34 (259)	18.66	70 - 11000	85 - 1470	Yields often suitable for domestic/stock purposes, less commonly irrigation quantities (up to 20 L/s) have been found. Dolerite is usually less fractured than basalt and is often of lower prospectivity. Quality is variable and water salinity in the low rainfall areas often restricts its use (water quality is expected to be mainly good in the north and south). Aquifers are often unconfined, semi-confined to confined.	Moderate. Can be high if fractured zones are not overlain by low permeability material.
FRACTURED ROCK	LOW-MODERATE	Devonian granitic rocks. Cambrian mafic, ultramafic complexes (peridotite, serpentinite, olivine gabbro). Proterozoic granite.	SE 4 NE 60 NW 51 SW 31	4	59.0	0.80 (6)	1.51	1700	The granitic rocks are often sparsely fractured and generally have a lower prospectivity than other rock types. Yields are usually in the range suited to stock, domestic uses, although occasionally higher yields are obtained. Large areas of granitic rocks are untested. Quality is variable, salinity sometimes restricts use. Peridotite and serpentinite outside the agricultural areas are untreated and little is known of their potential. Aquifers are unconfined to confined.	Low to moderate. Can be high if highly fractured zones are overlain by low permeability material.

1. This is a state wide legend which contains data on generalised aquifer characteristics that may not be directly relevant to this map.
 2. Statistics provided in the legend are based on deep boreholes entered in BORIS groundwater database (BORIS) February 2003. Boreholes shown on the map are those with locations mainly supplied by drillers and are mostly the result of short term pumping measurements. Some bores have been successful in yields > 0.5 L/s but have been considered as unsuccessful bores. Yield related statistics (average and maximum yield) are based on the number of successful bores (number in brackets in the average yield column). Outputs of bores are those supplied by drillers and are mostly the result of short term pumping measurements. Some bores have been successful in yields > 0.5 L/s but have been considered as unsuccessful bores. These bores are included in the total percentage of successful bores but have not been used for statistical calculations. Boreholes reported as dry holes usually have small unreported yields (< 0.05 L/s).
 3. Successful bores with a reported yield > 1 L/s have potential for small irrigation purposes in Tasmania. Very limited irrigation is possible with lower yields.
 4. In some areas there are many bores related to investigation and production for coastal and inland aquifers in Tasmania. Salinity ranges for some of the Quaternary aquifers in south-east Tasmania have been obtained from these borehole records and included in the legend (marked with a star *).
 5. Small elevated areas of any hydrogeological unit will usually have lower prospectivity because of limited storage and high discharge rates.
 6. In areas where there is little or no water bore data (Southwest Tasmania), the groundwater prospectivity has been assumed to be similar to that in areas where data are widely available.
 7. In areas of low rainfall water quality can be degraded and usage may be limited.
 8. In areas of low rainfall water quality can be degraded and usage may be limited.

