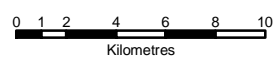


Legend

- Town
- River and Creek
- Road and Highway
- Water Management Area
- Stockton Groundwater Source
- Tomago Groundwater Source
- Tomaree Groundwater Source



Map 16- Tomago, Tomaree, Stockton Groundwater Source





Name of Water Source:

Tomago Tomaree Stockton Groundwater Sources

Relevant Water Sharing Plan: Water Sharing Plan for the Tomago Tomaree Stockton Groundwater Sources gazetted on 7 February 2003 and as amended by order on 1 July 2004.

Description of Water Source:

The Tomago Tomaree Stockton Groundwater Sources are that area of land within the Lower North Coast and Hunter Water Management Areas as shown in Map 16, known as the Tomago Tomaree Stockton aquifers.

The Tomago Tomaree and Stockton aquifers cover an area of 275 km². The area is bounded by the Ocean Coast from the mouth of the Hunter River at Stockton to Tomaree Head at Shoal Bay; Port Stephens from Tomaree Head at Shoal Bay to the mouth of Twelve Mile Creek at Oyster Cove; around a northern and western land boundary along the margin of the Tomago Sands from the mouth of Twelve Mile Creek around Grahamstown Dam to Raymond Terrace and along the Hunter River, then following the Hunter's northern channel around Fullerton Cove to its mouth at Stockton.

There are three main sand members that make up the aquifers – Tomago, Tomaree and Stockton and these form the basis of the three groundwater sources within the water source area:

- (a) Tomago Groundwater Source (**Tomago**) - The Tomago Sand Member is associated with the inner barrier dune system of the Tomago Dune Ridge located between the Hunter River and Tilligerry Creek extending from the Hunter River at Hexham and across to Williamstown in the south and to Raymond Terrace and across to Medowie on the southern margin of Grahamstown Dam in the north and to Lemon Tree Passage on Port Stephens to the east. The Tomago Sand Member is an exposed sand body of accumulated beach, dune and near-shore shelly sands overlying the Medowie Clay Member. The Tomago Sand Member is 32 km in length, 4 - 14 km in width, 152 km² in area and generally has a thickness of less than 18 m.
 - (b) Tomaree Groundwater Source (**Tomaree**) - The Tomaree Sand Member is associated with the Tomaree Hills Province which is dominated by small conical peaks of hard bedrock. Irregular narrow valleys that wind between the hills are flanked by alluvial slopes and floored by sand, with some low ridges that reflect an aeolian or bay-beach origin. It extends between Tilligerry Creek and the Ocean Coast from the drainage complex of Bobs Farm Creek, Fenninghams Island Creek and Murrumburrimbah Swamp near Anna Bay in the south to the mouth of Tilligerry Creek at Taylors Beach and around the margin of Port Stephens to Tomaree Head at Shoal Bay to the north. The sand deposits are variable in thickness consisting of an upper unit of uniform dune sand 2 - 20 m thick overlying a lower unit commonly more than 40m thick which is characterised by the localised presence of clay lenses, charcoal fragments and peat. The sand deposits are consistently underlain by a dark grey to black organic clay, presumed to be the Medowie Clay Member. The Tomaree Sand Member is an exposed sand body 13 km in length, 3 – 6 km in width, 45 km² in area and has a thickness of 18 m.
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- (c) Stockton Groundwater Source (**Stockton**) - The Stockton Sand Member is associated with outer barrier dune system of the Stockton Dune Ridge, running parallel to the coast between the villages of Stockton and Anna Bay consisting of a series of parallel smaller dune ridges, with intervening lowland swales tending to swamps, located between the Pacific Coast and Tilligerry Creek and extending from the Hunter River at Stockton in the south to the drainage complex of Bobs Farm Creek, Fenninghams Island Creek and Murrumburrimbah Swamp near Anna Bay in the north. The Stockton Sand Member includes the full thickness of sand deposits in the Stockton Area and 32 km in length, 2-3 km in width, 78 km² in area and has a thickness of 10-40 m.

Definition of Waters Included:

The groundwater sources include all water contained in the Tomago, Tomaree and Stockton sand aquifers.