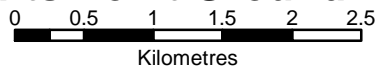


Map 9- Stuarts Point Groundwater Source





Name of Water Source:

Stuarts Point Groundwater Source

Relevant Water Sharing Plan: Water Sharing Plan for the Stuarts Point Groundwater Source gazetted on 27 December 2002 and as amended by order on 1 July 2004.

Description of Water Source Area:

The Stuarts Point Groundwater Source is that area of land within the Mid North Coast Water Management Area as shown in Map 9.

The Stuarts Point aquifer is located on the states Mid North Coast, approximately 45 km north east of Kempsey, and some 500 km north of Sydney.

The Stuarts Point sand aquifer system covers the area described as being the unconsolidated sands west of the Macleay Arm south to a point adjacent to Cockle Island at the confluence of Borrigalla Creek and Andersons Inlet. Then in a north north westerly direction with the western boundary being the boundary between the unconsolidated sands and the unconsolidated clays, crossing the Stuarts Point road adjacent the Stuarts Point Cemetery then continuing in a northerly direction to Grassy Head village. The area includes the town of Stuarts Point and the village of Fishermans Reach.

The sand body that defines the aquifer is approximately 1480 hectares in extent.

The surface of the aquifer is a gently undulating to flat sand plain that has a maximum elevation of about 4.5m above sea level.

The aquifer is believed to have 3 separate levels that are hydrologically linked.

Definition of Waters Included:

The water in this groundwater source includes all water contained in the Pleistocene age sand formations below the land surface, but does not include the basement rock.

The perched aquifer level is typically situated above a coffee rock layer (an iron cemented sand) that is extensive but not laterally continuous within the area. This coffee rock layer is located at depths of approximately 2 – 5 m and is relatively impermeable. This coffee rock layer potentially stalls infiltrating groundwater and therefore provides water supplies for groundwater dependent ecosystems, which are reliant on water close to the surface. If the coffee rock layer is not continuous and the water level is high enough, the potential perched and shallow aquifers may be classed as one.

The shallow aquifer level is believed to be situated below the coffee rock and above a potentially laterally extensive clay layer. This level of the aquifer is the most developed, being utilised for horticultural water supplies through batteries (series) of spear points and excavations, as well as backyard domestic spear points for domestic water supplies.

The deep aquifer level is believed to be situated below the clay layer and at present is only being utilised by the three town water supply bores. The water chemistry from these town water supply bores has shown that this groundwater contains elevated arsenic concentrations of which the source and extent are yet to be determined.
