

Hydrology - SCDNR Open-File Report 2

Evaluation of the Shallow Aquifer, Hilton Head Island, South Carolina

Compilation and Review of Existing Data

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ABSTRACT

Shallow aquifers on Hilton Head Island are formed in three geologic units, beach deposits of 7,000 and 100,000 years age and a shelf deposit of 100,000 years age. Summer rainfall is highly variable, and ground water flow direction in shallow aquifers is controlled by the local topography. Water chemistry is controlled by the initial composition of rainfall and the effects of the processes of soil-zone evapotranspiration and shallow-aquifer mixing. Water quality is generally dominated by sodium chloride or calcium bicarbonate, and pH values range between 4.1 and 7.8. Dissolved solids concentrations are low and high iron concentrations are likely to be common. Data suggest the water level in the lower section of the shallow aquifer responds to changes in the water level in the underlying upper Floridan aquifer. Aquifer transmissivity is as high as 1,200 feet squared per day, and well yields in the range of 5 to 15 gallons per minute should be expected.

Copies of this report are available in the SCDNR's Columbia office.