
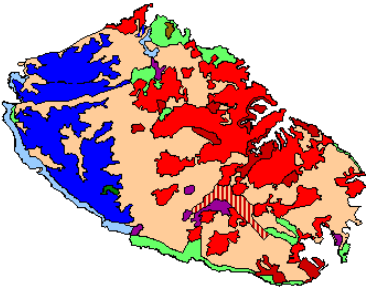


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| <br><b>MALTA RESOURCES AUTHORITY</b> |  <p>Corinne Landcover 2000</p> |
| <b>Groundwater Body Code</b>  |  |
| MT001   |  |
| <b>Groundwater Body Name</b>  |  |
| Malta Main Mean Sea Level Aquifer   |  |
| <b>Reference Year</b>   |  |
| 2004  |  |

### Hydrogeological Characteristics

#### Aquifer Description

The Lower Coralline Limestone formation represents the most important aquifer of Malta. It consists of an algal-foraminiferal limestone with solitary corals, having moderate, irregular, and frequently layered or channel-like permeabilities. The MSLA is pervious to great depths allowing the freshwater body to develop freely. Effective porosity and permeability of this aquifer are mainly of secondary nature, due to an intensive fracturing and fissuring of the limestone deposits. These fractures show a preferred direction, south-west to north-east and in this direction the permeability will have a much higher value than in the direction perpendicular to it.

The Globigerina Limestone overlays the main aquifer over most of central and southern Malta. Percolation of rain water is mainly along fissures. There is a limited and irregularly distributed filtering effect. Locally, the Globigerina Limestone where it is intensely fractured below the water table, becomes part of the Lower Coralline Limestone aquifer. In the northern part of Malta, the Globigerina Limestone is strongly fractured and quite permeable, especially in the vertical.

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| <b>Mean Aquifer Thickness</b>                        | 67.5m   |
| <b>Soil Type and Indicative Thickness</b>            | All three types: Terra Soils, Carbonate Raw soils and Xererondzinas exist. Their indicative thickness ranges between 20-100cm.                          |
| <b>Mean Hydraulic Conductivity</b>                   | 6.00E-04m/s   |
| <b>Mean Annual Groundwater Level Amplitude</b>       | 0.6m  |
| <b>Pressures—Quantitative Status</b>                 |   |
| <b>Mean Annual Recharge (Natural and Artificial)</b> | 34.27hm <sup>3</sup>  |
| <b>Mean Annual Groundwater Demand</b>                | 36.05hm <sup>3</sup>  |
| <b>Balance</b>                                       | -2.37hm <sup>3</sup>  |
| <b>WSC Sources</b>                                   | 10 pumping stations and 85 production boreholes and 89 unused boreholes (some of which are utilized for the abstraction of 2 <sup>nd</sup> class water) |
| <b>Registered Private Sources</b>                    | Exceed 1000 boreholes   |

#### Pressures—Qualitative Status

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| <b>Principal Diffuse sources of Pollution</b> | Agriculture, Urbanization related pressures.   |
| <b>Principal Point sources of Pollution</b>   | Animal Husbandry Activities, Industrial Activities, Waste Water Treatment, Contaminated sites, Petrol stations/ Fuel storage facilities. |
| <b>Nitrate Content in Groundwater</b>         | High—exceeding 100mg/l   |
| <b>Chloride Content in Groundwater</b>        | Chloride content of abstracted groundwater normally exceeds 500mg/L  |
| <b>Pesticide Content in Groundwater</b>       | Low—total pesticide content below 0.5µg/l  |
| <b>Other Potential Pollutants</b>             | Hydrocarbons—particularly in the vicinity of major fuel storage facilities and pipelines.  |
| <b>Direct discharges to Groundwater</b>       | No direct discharges have been permitted   |

#### Associated Aquatic Ecosystems-sites under investigation

The extent of the dependence on groundwater of four specific ecosystems, which are also Natura 2000 sites, is currently being investigated. These are a bird sanctuary known as Il-Ballut of Marsaxlokk, a small saline marshland, Il-Maghluq tal-Bahar found at Marsascala, Is-Salini Area, one of the largest remaining coastal marshes in the Maltese Islands and l-Ghadira s-Safra which is a unique wetland. All four ecosystems provide sensitive habitats for indigenous and endemic flora and fauna.

#### Preliminary Risk Assessment

This Groundwater Body is at risk of failing to achieve the Environmental Objectives of the Regulations both from the point of view of criteria related to the achievement of the quantitative and qualitative status. It should be noted that the groundwater body is also at risk of failing to achieve the objectives set in the Nitrates Regulations.