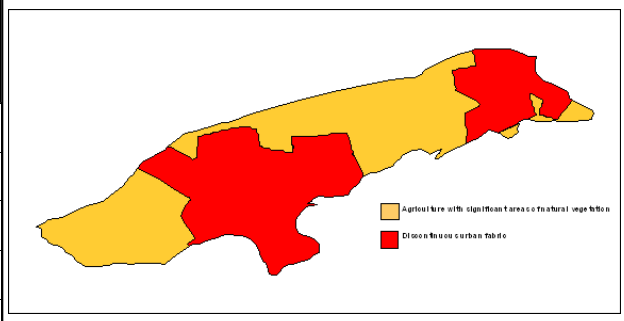
MALTA RESOURCES AUTHORITY

| Groundwater Body Code |
|---|
| MT014 |
| **Groundwater Body Name** |
| Ghajnsielem Perched Groundwater Body |
| **Reference Year** |
| 2004 |




Corinne Landcover 2000

## Hydrogeological Characteristics

**Aquifer Description**

The Ghajnsielem/Qala area is a downthrown block of country lying adjacent to and south of the fault of the same name. The principal aquifer formation in the area is the Upper Coralline Limestone which geological investigations have shown to achieve a maximum thickness 87m. Geologically, the Lower Coralline Limestone is a shallow water deposit of variable composition which due to its lithographic nature and its sensitivity to weathering this formation hosts a generalized aquifer

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| **Mean Aquifer Thickness** | 33m |
| **Soil Type and Indicative Thickness** | Terra soils predominate whilst the indicative thickness lies between 40-81cm |
| **Mean Hydraulic Conductivity** | 2.93E-6m/s |
| **Mean Annual Groundwater Level Amplitude** | n/a |

## Pressures—Quantitative Status

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|---|---|
| **Mean Annual Recharge (Natural and Artificial)** | 0.85 $hm^3$ |
| **Mean Annual Groundwater Demand** | 0.34 $hm^3$ |
| **Balance** | 0.39 $hm^3$ |
| **WSC Groundwater Sources** | 1 operational borehole, 1 pumping station and 3 boreholes that are not in use. |
| **Registered Private Groundwater Sources** | 228 boreholes and 1 spring |

## Pressures—Qualitative Status

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| **Principal Diffuse sources of Pollution** | Agriculture, leaks from the sewerage network. |
| **Principal Point sources of Pollution** | Animal husbandry activities |
| **Nitrate Content in Groundwater** | Moderately high - between 50 mg/l and 100mg/l |
| **Chloride Content in Groundwater** | Moderate - between 250 mg/l and 500 mg/l |
| **Pesticide Content in Groundwater** | No data available; however karstic nature of the aquifer makes it highly vulnerable to pesticide pollution. |
| **Other Pollutants** | n/a |
| **Direct discharges to Groundwater** | No direct discharges have been permitted |

## Associated Aquatic Ecosystems–sites under investigation

No sites enclosing groundwater dependent eco-systems have been identified.

## Preliminary Risk Assessment

This groundwater body is definitely at risk of failing to achieve the environmental objectives of the Water Framework Directive from the view of achievement of criteria related to good qualitative status. It is also significantly at risk of not achieving the objectives set in the Nitrates Regulations.