

ANNEXURE 3: MONITORING

Partnering with GEOSS

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1. CHOICE OF SITES

Cape Town and surrounding areas fall within two overlapping strategic water source areas – the surface Table Mountain Water Source Area and the groundwater Cape Peninsula and Cape Flats Water Source Area. Groundwater is typically a fallback resource in times of drought. Hence unmonitored and unregulated abstraction of groundwater, especially under an uncertain and changing climate, poses a risk to this source of water supply.

Aquifers and sources of groundwater

As the City of Cape Town diversifies its bulk water, it looks to tap three underground water reserves in the vicinity of the city: the Cape Flats, Atlantis and Table Mountain Group aquifers. The Cape Peninsula and Cape Flats Water Source Area (groundwater) overlaps with the primary Cape Flats aquifer, as well as the groundwater recharge area represented by the iconic Table Mountain outcrop of the Peninsula Formation. The Atlantis aquifer (up the West Coast) lies outside the Cape Peninsula and Cape Flats Water Source Area. The Cape Flats aquifer and the Atlantis aquifer were not considered as potential areas of interest.

New monitoring areas

Four new monitoring areas were considered as part of this project, to supplement the Newlands and Epping Industria areas already established. The following criteria were used to identify the most suitable monitoring sites within the designated area:

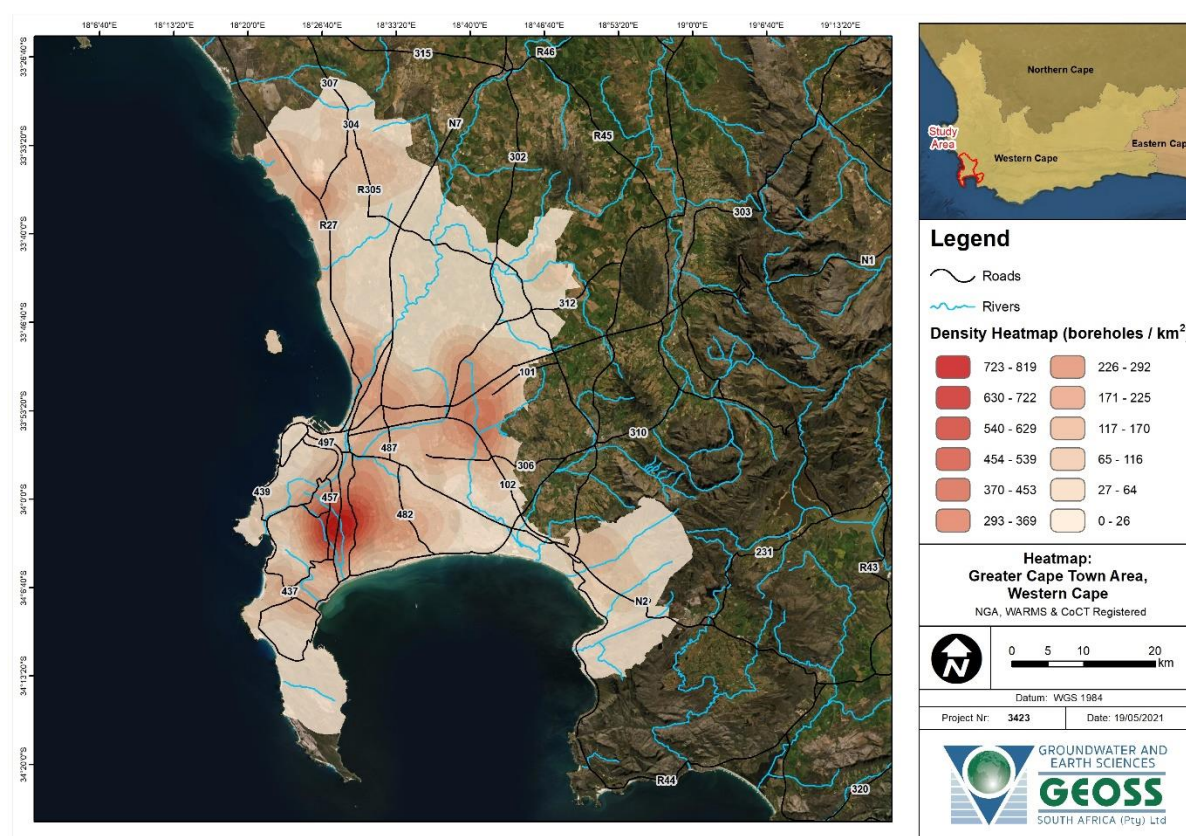
- Borehole density data from available databases
- Known drilling during Day Zero period
- Accessibility and safety of equipment deployed in boreholes
- Potential points for concern.

After consultation with the Steering Committee members, the following areas were agreed upon:

Area	Type	Rationale
Brackenfell	Residential/Industrial	Borehole density and known large-scale groundwater use, different geological setting
Constantia/Bergvliet	Residential	Borehole density and reported impacts (Die Oog)
Noordhoek	Residential	Borehole density, potential groundwater recharge area, geographical unit
Scarborough/Kommetjie	Residential	Borehole density, geological setting

Known borehole density

The heatmap clearly shows the areas in and around Cape Town where high density of known boreholes are and also assisted with the selection of sites.



2. APPENDICES

The appendices listed below can be accessed from the Appendices landing page:

www.wwf.org.za/annexures/table_mountain_water_source_area_partnership

APPENDIX A Establishing a citizen-science groundwater monitoring network for Brackenfell, Western Cape	APPENDIX B Establishing a citizen-science groundwater monitoring network for Constantia & Bergvliet, Western Cape
APPENDIX C Establishing a citizen-science groundwater monitoring network for Noordhoek, Western Cape	APPENDIX D Establishing a citizen-science groundwater monitoring network for Scarborough & Kommetjie, Western Cape