Boundaries of the Western Aquifer Basin and the Eocene Aquifer in the Northeastern Aquifer Basin

Final Report
SUSMAQ-MOD #21 V 0.1

Prepared by:
SUSMAQ TEAM

Palestinian Water Authority, Palestine
Water Resource Systems Research Laboratory
University of Newcastle upon Tyne, UK

December 2001
**Disclaimer**

This report is an output from the Modelling Study Team, part of the SUSMAQ project.

The findings, interpretations and conclusions expressed are those of the authors (the team) and should not be attributed to other collaborators on the SUSMAQ project.

The project does not guarantee the accuracy of the data included in this publication. Boundaries, colours, denominations and other information shown in maps, figures, tables and the text does not imply any judgment on legal status of territory or the endorsement of boundaries. The typescript of this paper has not been prepared in accordance with procedures appropriate to formal printed texts, and he partners and funding agency accept no responsibility for errors.

**Contact Details**

**Professor Enda O’Connell**  
Project Director  
University of Newcastle upon Tyne  
Tel: 0191 222 6405  
Fax: 0191 222 6669  
Email: P.E.O’Connell@ncl.ac.uk

**Engineer Fadle Kawash**  
Deputy Chairman  
Palestinian Water Authority  
Ramallah, Palestine  
Tel:02 295 9022 Fax 02 2981341  
Email: fkawash@pwa-pna.org

**Dr. Amjad Aliewi**  
Operations and Technical Manager  
Team Leader, Hydrogeology and Flow Modelling  
Sunrise Building  
Al-Irsal Road  
Al-Bireh/Ramallah, Palestine  
Tel. 02 298 89 40 Fax. 02 298 89 41  
e-mail: a.s.aliewi@susmaq.org

---

**The SUSMAQ Project**

The aim of the project is to increase understanding of the sustainable yield of the West Bank and Gaza aquifers under a range of future economic, demographic and land use scenarios, and evaluate alternative groundwater management options. The project is interdisciplinary, bringing together Hydrogeologists and groundwater modellers with economists and policy experts. In this way, hydrogeological understanding can inform, and be informed by, insights from the social sciences. The results of the study will provide support to decision-making at all levels in relation to the sustainable yield of the West Bank and Gaza aquifers.

The project runs from November 1999 to December 2003, and is a partnership between the Palestinian Water Authority, University of Newcastle and British Geological Survey. The project is funded by the United Kingdom’s Department for International Development (DFID).

---

**Management Options Study**

Modelling Study

The Modelling Study is part of the SUSMAQ project.

The Modelling study focuses on the geology and hydrogeology of the Western Aquifer Basin (WAB), its inflows (recharge) and outflows (spring and well abstractions). The conceptual model is followed by a numerical model, using the GMS software modelling code.

The Modelling Study has two main objectives. Firstly to set up a conceptual hydrogeological model of the WAB and the run and calibration of both, a numerical groundwater flow and contamination model of the basin. Secondly, recharge will be estimated in a separate sub-project, which includes extensive fieldwork for primary data in a chosen representative catchment within the recharge area (Wadi Natuf).

---

**Bibliographical Reference**

Boundary conditions of the Western Aquifer Basin (WAB) and the Eocene aquifer. Report No. SUSMAQ-MOD#21 V0.1. Sustainable anagement for the West Bank and Gaza Aquifers, aalestinian Water Authority (Palestine) and University of Newcastle upon Tyne (UK).

**Author:** Clemens Messerschmid (Clemens@susmaq.org)

**Contributors:** Amjad Aliewi, Abbas Kalbouneh, Liana Nasser

---

**Feedback**

The SUSMAQ and PWA teams will appreciate any feedback on this report. Feedback should be sent to the above contacts.
Full report/document is not available online