

An Eco-Hydrological Approach to Delineation Guideline for Groundwater Remediation Measures in a Coastal Aquifer

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Appropriate and efficient groundwater remediation measures in any area of study should take into consideration the anthropogenic activities present on the ground surface and the potential of the media to convey water and pollutants to the groundwater aquifer. Thus, any operational remediation measures can be recommended only if they consider at least two key factors: the lithologic characteristics of the unsaturated zone, and the potential for contamination owing to a variety of past and present land-usages on the aquifer ground surface. Only when the characteristics of these factors have been assessed can operational management be recommended which can mitigate and impede adverse effects upon groundwater quality in the area of study.

The objective of this paper is to propose an approach which generates appropriate remediation measures guidelines for any eco hydrological scenario. Such an approach can provide an additional ring to enhance the chain leading towards sustainable groundwater management. Because of its variegated situation, and the available field data which enable validation of this approach, Israel's Coastal aquifer has been considered as an ideal case study area for its implementation.