

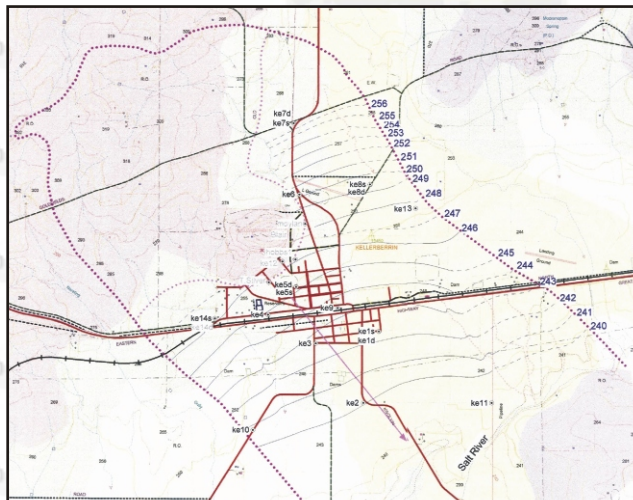


PROJECTS

HYDROGEOLOGY

SHIRE OF KELLERBERRIN: Catchment Salinity Impact, Rural Towns Program

Hydro 8



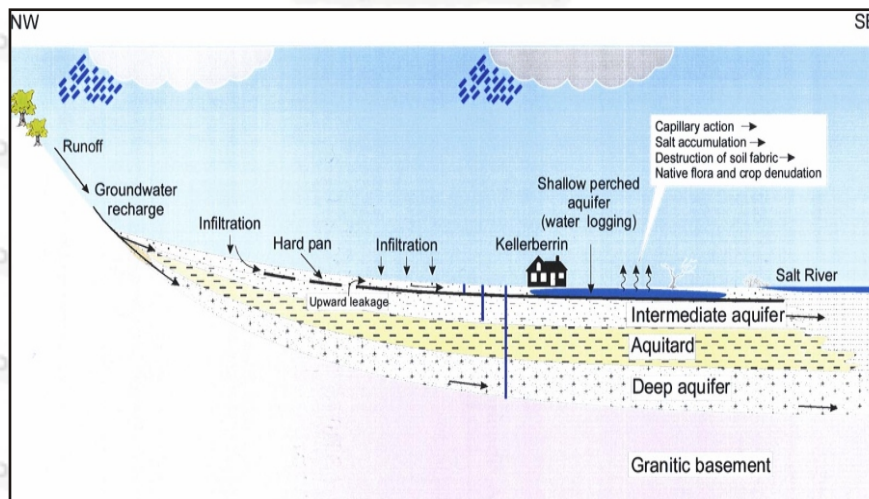
Part geological map courtesy of GSWA

Three aquifer units were recognised:

- Shallow (unconfined) ephemeral aquifer perched above discontinuous silcrete containing fresh to brackish groundwater, prone to waterlogging after winter recharge
- Intermediate aquifer confined locally by discontinuous silcrete cap with brackish to hypersaline groundwater, discharging locally into the upper aquifer
- Deep (confined) aquifer within fresh or brackish groundwater within weathered granitic basement

The Shire & Town of Kellerberrin are being adversely impacted by dryland salinity. As part of the Rural Towns program, a desk study was undertaken to assess the impact of groundwater salinisation on the groundwater/surface water catchment. Published & archival data was examined. A walkover survey was accompanied by a proforma questionnaire jointly with Landcare Officers sent out to affected landholders.

Following review of the proformas, an investigation scope of work was developed and implemented. Existing residential/agricultural bores were sampled, and new bores constructed to provide adequate coverage across the catchment.



Catchment clearance has reduced evapotranspiration & increased groundwater recharge, resulting in water logging during winter rainfall events. Salinity problems including salt scalding, rising damp and other infrastructure damage are attributed to this water logging.

Recommendations were made to develop a detailed catchment water and salt balance to assess trends & impact, which will allow suitable remedial options to be identified.

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