



CSIRO: Aquifer storage and recovery (ASR) of potable water in the Leederville Aquifer

Project No: 012 05

Description:

CSIRO received \$481,000 towards a total estimated project value of \$4,237,800 for this research project, anticipated to be completed by September 2010.

This project will develop technologies and management strategies for safe, economical and sustainable use of aquifer storage and recovery (ASR) techniques in Perth's deep aquifer systems. A pilot potable water ASR implementation on the Gnangara Mound will be used to identify and study critical controlling (physical, biological and chemical) processes. Results will support the development of tools required for robust design and implementation of future larger-scale ASR projects.

The pilot demonstration and associated research will deliver an improved understanding of important ASR processes such as well clogging, dispersive mixing and the biogeochemical reactions between injected water and the aquifer. Methods used will include innovative geophysical techniques, geochemical analysis, particle transport/entrapment modelling and analysis, and biogeochemical transport modelling. This will clarify the potential and the practical limits of ASR as a tool to optimise potable water use in metropolitan Perth.