



## **Managed Aquifer Recharge (MAR) Examples Supporting Integrated Water Management (IWM) across Australia and New Zealand**

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Globally, all growing cities and rural sectors are facing major challenges including modernising water infrastructure, improving urban design (liveability) and feeding growing populations against a backdrop of climate change and the risk of diminished water supplies. Integrated Water Management (IWM) approaches sustainable resource management from a catchment perspective in contrast to a piecemeal approach that artificially separates land management from water management. Approaches vary from country to country and catchment to catchment but they are all fundamentally based on management options that deliver environmental, cultural, and social outcomes for all users of the resource. Managed Aquifer Recharge (MAR) as a tool to better utilize all available water resources sits firmly in the nexus between water supply, wastewater management, urban planning and stormwater management. Increasingly, across greenfield urban development sites IWM solutions are incorporating MAR solutions to improve liveability and deliver alternative sources of water for irrigation and third pipe use within households.

This presentation highlights three examples of MAR projects supporting IWM including;

- The proposed Nambelup Industrial Area south of Perth (WA), a proposed modern industrial estate comprising approximately 1,000 ha of industrial land. The area a subject to seasonal inundation. Placing fill to a depth of 700 mm across the site to protect building infrastructure from floods is estimated to cost AUD\$80 million. An alternative integrated solution has been proposed for half the cost involving MAR and water reuse to provide a more sustainable development outcome.
- The Hinds catchment project (NZ) MAR and infiltration basins are addressing legacy issues associated with nitrate and overuse by improving groundwater quality, providing increased water and restoring flows to the coastal drainage network. The works will provide environmental and cultural benefit given the cultural significance of the coastal drain as a traditional food source.
- Blackforest Road Stormwater Harvesting Scheme (VIC) is an initiative of City West Water to integrate treated stormwater into the alternative water supply, at a regional scale. The proposed scheme captures, treats and stores stormwater before integration into the western growth corridor recycled water supply network. The scheme will utilise MAR for optimized water storage, resilience and water supply security.

These projects are example of innovative thinking and new technologies creating sustainable and integrated outcomes to support Water Sensitive Communities.