

## Project 21 – Determining Hydrological Drivers of “Death Hole”, Karst Sinkhole (Groundwater Dependent Ecosystem) near Beachport, South Australia

**Location:** The project will be based at Adelaide, SA

**Required area of expertise/background:** An Honours or MSc degree in Hydrology, Hydrochemistry

**Project:** Currently the main groundwater resource used in the Rivoli Bay region is the Unconfined and Confined Aquifer due to the unique groundwater “mound” in the Dilwyn Formation (Dilwyn Mound) located under Burkes Island between Beachport and South End.

Death Hole is a small Karst Sinkhole centred over the Dilwyn Mound and anecdotal evidence suggests this wetland receives some of its Environmental Water Requirements from the Tertiary Confined Aquifer (Dilwyn Formation). This would make it the only known wetland in the South East that depends on water from the Confined Aquifer to support its ecology and potentially places it amongst one of the most unique and rarest wetland types in the region. Determining the level of dependence on confined aquifer water is required to sustainably manage the confined water resource in this area.

Brief field visits to date have identified one nationally listed species (Yarra Pygmy Perch), one fish species listed as “critically endangered” in the SA State Action Plan for freshwater fishes 2008 (Australian Mudfish), and a species of stygofaunal amphipod believed to be linked to discharge of confined aquifer water (Leijts, pers coms 2011).

The implications of the results may influence water management principles in the future review of the Lower Limestone Coast (LLC) water allocation plane (WAP).

**2017 RTP full time RTP Stipend Rates\* (\$26,682). Approximate annual top-up amount:** To be negotiated

### Principal Supervisor:

TBC -

### Co Supervisors:

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**Government of South Australia**

Department of Environment,  
Water and Natural Resources



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