



# UNDERSTANDING THE SOUTH EAST'S ECOLOGICAL AND HYDROLOGICAL NEEDS

## ECOLOGICAL AND HYDROLOGICAL INVESTIGATIONS IN THE SOUTH-EAST OF SOUTH AUSTRALIA

**Project Fact Sheet:** E.2.2/2012

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**Project Duration:** May 2011 – July 2012

**Project Partners:**



**Government of South Australia**  
Primary Industries and Regions SA



## BACKGROUND

Sustainable water management in the South East is supported by at least 18 natural resource management policies, all of which require improved knowledge when it comes to ecological responses to surface and groundwater regimes and water quality. Addressing this knowledge gap required a well-structured science program, relevant to policy.

## ABOUT THE PROJECT

This project was identified as a priority to:

1. Develop a conceptual model of how the hydrology, water use, land use and ecology interact – based on recent research undertaken in this region and to use best-practice science to determine how a decision support system can be used to inform policy development;
2. Improve the understanding of the relationship between groundwater and drains in the South East and how this varies in time and space;
3. Evaluate the utility of trace techniques in understanding and quantifying this process in the region; and
4. Install monitoring infrastructure in the newly constructed REFLOWS floodway prior to the release of floodwaters.

Members of the South Eastern Water Conservation and Drainage Board were involved in planning the fieldwork for this project. The infrastructure investment at two key sites enabled detailed assessments of how interactions between groundwater and drains change in time, vary with land use and will assist in water management and planning for the South East.

## KEY FINDINGS

- > This project produced an extensive literature review of current science and knowledge to form one basis for further work in the South East region.
- > This review is a critical step to ensure any future investigations address the knowledge limitations for water management in the South East and provide benefits for local water managers and other key stakeholders in the region.
- > A number of software packages were identified that are likely to be suitable to implement the frameworks designed, each with different objectives and requirements.
- > Water management policy is increasingly recognising the link between surface water and groundwater systems – and the need for the two to be managed in an integrated way. Preliminary results from this project showed potential for future application of methods to identify connectivity between surface water and groundwater but further refinement and data is needed.

For a copy of the two technical reports released under this project, visit [www.goyderinstitute.org](http://www.goyderinstitute.org)

## WHAT IT MEANS FOR THE FUTURE

The project was a critical step to ensure future investigations into water management in the South East address the knowledge limitations and provide benefits for local water managers and other key stakeholders in the region. The Goyder Institute is investing in three additional projects in the region based on the outcomes of this study.

For further information: **Goyder Institute for Water Research**  
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*The Goyder Institute for Water Research is a partnership between the South Australian Government through the Department of Environment, Water and Natural Resources, CSIRO, Flinders University, University of Adelaide and the University of South Australia.*

