

**Nikki Harrington B.Sc. Hons. PhD.**  
Principal Hydrogeologist  
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## Overview

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Nikki is a hydrogeologist of high standards and a strong commitment to excellence, with more than 20 years' experience in the groundwater industry across the academic, government and private sectors. Her main area of interest throughout her career has been the application of environmental tracer and numerical modelling techniques to address questions relating to resource sustainability and management. A PhD and a post-doctoral fellowship, the latter in Canada, provided solid foundations in different areas of geochemistry and environmental isotopes across a range of geographical and geological settings. More recently, Nikki's focus has been on delivering science that addresses specific needs of stakeholders and directly informs resource management, first during eight years leading numerous projects in SA Government, and in 2011-2015 with the National Centre for Groundwater Research and Training as Project Leader for the Goyder Institute-funded South East Regional Water Balance project.

Over the past seven years at IGS, Nikki has been the Principal Groundwater Modeller and Geochemist on a range of major projects for irrigation, mining and government clients, with a strong emphasis on development of robust conceptual models of aquifer systems and fit-for-purpose, defensible model designs and outputs.

## Qualifications

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### **2004 Doctor of Philosophy (PhD)**

Flinders University, South Australia.

*Thesis: Sources and Fluxes of Water and Salt Below a Regional Groundwater Discharge Complex, South Eastern Australia.*

### **1998 B.Sc. Honours (1<sup>st</sup> Class)**

Flinders University, South Australia.

*Thesis: Geochemistry and Hydrologic Processes in the Evolution of Hypersaline Brines at a Groundwater Discharge Area, Raak Plain, Murray Basin, Australia.*

### **1997 B.Sc. Science**

Flinders University, South Australia.

## Employment history

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### **2015-Present**

Principal Hydrogeologist, Innovative Groundwater Solutions Pty Ltd.

### **2011 –2015**

Research Associate, National Centre for Groundwater Research and Training, Flinders University

### **2004 – 2011**

Hydrogeologist / Senior Hydrogeologist, South Australia Government – Department of Water, Land and Biodiversity Conservation

### **2004 – 2005**

Postdoctoral Research Fellow, University of Saskatchewan, Saskatoon, Canada

### **2002 – 2004**

Hydrogeologist, South Australia Government – Department of Water, Land and Biodiversity Conservation

### **1999 – 2004**

PhD Candidate, CSIRO Land and Water, Adelaide, and Flinders University of South Australia

### **2002**

Hydrogeologist, Resource & Environmental Management (REM)

**1999 – 2001**

Hydrogeologist, URS Australia Pty. Ltd. (formerly Woodward-Clyde)

## Competencies

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Dec 2021: Provide First Aid (HLTAID011, HLTAID009, HLTAID010), St John

## Publications (some in maiden name of Howes)

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### Refereed Journal Papers

Moser, B. Beknazarova, M., Whiley, H., Keerthirathne, T. P., Harrington, N., DeGaris, K. and Wallis, I. (2021). Investigation into the Cause of Iron-Related Clogging of Groundwater Bores Used for Viticulture in the Limestone Coast, South Australia. *Water* 2021, 13, 683. <https://doi.org/10.3390/w13050683>.

Crosbie, R.S., Davies, P., Harrington, N. and Lamontagne, S. (2014). Ground truthing groundwater recharge estimates derived from remotely sensed evapotranspiration. *Hydrogeology Journal*. <http://dx.doi.org/10.1007/s10040-014-1200-7>.

Harrington, N.M., Herczeg, A.L. and Le Gal La Salle, C. (2008). Hydrological and geochemical processes controlling variations in Na<sup>+</sup>-Mg<sup>2+</sup>-Cl-SO<sub>4</sub><sup>2-</sup> groundwater brines, south-eastern Australia., *Chem. Geol.*, 251, 8-19.

Wassenaar, L.I., Hendry, M.J. and Harrington, N. (2006). Decadal Geochemical and Isotopic Trends for Nitrate in the Transboundary Abbotsford-Sumas Aquifer and Implications for Beneficial Agricultural Management Practices. *Env. Sci. Technol.* 40(15), 4626-4632.

### Conference Proceedings

Harrington, N., Woods, J., Werner, A., Harrington, G., Lamontagne, S., Crosbie, R. and Li, C. (2013) Developing a robust scientific framework to support water management in the South East of South Australia, 40th IAH Congress on Solving the Groundwater Challenges of the 21st Century, 15-20 September 2013, Perth, Western Australia.

Crosbie, R., Davies, P., Harrington, G., Lamontagne, S. and Harrington, N. (2013). Using complementary methods for estimating groundwater recharge at a regional scale in the South-East of South Australia., 40th IAH Congress on Solving the Groundwater Challenges of the 21st Century, 15-20 September 2013, Perth, Western Australia.

Howes, N.M., Le Gal La Salle, C. and Herczeg, A.L. (2001). Evidence for brine circulation in a groundwater discharge zone., *Proceedings, Water-Rock Interaction 2001, Sardinia, Italy, June 10-15, 2001*, Swets & Zeitlinger, Lisse, Netherlands.

Howes, N.M., Le Gal La Salle, C. and Herczeg, A.L. (2000). The use of environmental tracers to determine brine leakage from natural groundwater discharge zones and artificial evaporation basins., *Proceedings, 4th Environmental Engineering Research Event, Victor Harbor, South Australia, November 21-24, 2000*.

Howes, N.M., Herczeg, A.L. and Le Gal La Salle, C. (1998). Geochemistry and hydrologic processes in the evolution of hypersaline brines at a groundwater discharge area: Raak Plains, Murray Darling Basin, Australia., *Proceedings, The Joint Congress of the 25th Hydrology and Water Resources Symposium and the 2nd International Conference on Water Resources and Environmental Research, "Water 99". Brisbane, Australia, July 6-8, 1999*, The Institute of Engineers, ACT, Australia.

### Books and Book Chapters

Barnett, S., Harrington, N., Cook, P. and Simmons, C.T. (2020). Groundwater in Australia: Occurrence and Management Issues. In: Rinaudo, J-D., Holley, C., Barnett, S. and Montiginoul, M. (eds.). (2020). *Sustainable Groundwater Management. A Comparative Analysis of French and Australian Policies and Implications to Other Countries. Global Issues in Water Policy Vol. 24.* Springer Nature Switzerland. *Sustainable Groundwater Management - A Comparative Analysis of French and Australian Policies and Implications to Other Countries | Jean-Daniel Rinaudo | Springer*

Harrington, N. and Cook, P. (2014). *Groundwater in Australia.* National Centre for Groundwater Research and Training, Australia.