

Curriculum Vitae: Rebecca Anne KELLY (nee LETCHER)

Position: Director, isNRM Pty Ltd

Date of Birth: 26 November 1975
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PREVIOUS POSITIONS

Fellow	Jan 2007 to Aug 2008	Integrated Catchment Assessment and Management Centre, The Australian National University
Research Fellow	Sept 2002 to Dec 2006	Integrated Catchment Assessment and Management Centre, The Australian National University
Post-doctoral Fellow	Feb 2002 to Aug 2002	Integrated Catchment Assessment and Management Centre, The Australian National University
Research Assistant	July 1998 to Jan 2002	Integrated Catchment Assessment and Management Centre, The Australian National University
PhD Candidate	Jan 1999 to Jan 2002	Integrated Catchment Assessment and Management Centre, The Australian National University
Research Economist	Dec 1996 to Jun 1998	ACTEW Corporation
Consultant	Dec 1995 to Feb 1996	Contracted to ACTEW Corporation to give a series of seminars on statistics, econometrics and forecasting techniques.

ACADEMIC QUALIFICATIONS

Year: 2002	Degree: PhD	University: The Australian National University
Year: 1998	Degree: BSc (Hons)	University: The Australian National University
Year: 1997	Degree: BEc	University: The Australian National University

MAIN RESEARCH AND CONSULTING INTERESTS

My research and consulting interests relate to the development of approaches for integrated assessment of natural resource management issues (mainly water related). This includes development of integrated modelling approaches and frameworks, development and application of participatory approaches in modelling, and the design of decision support systems. I also have substantial experience in the area of urban water revenue regulation, revenue and consumption forecasting and water pricing.

AWARDS AND DISTINCTIONS

- Year: 2007** Golden Outstanding Sustainability Achievement Award, awarded to the CLAM Project by Environs Australia
- Year: 2007** Silver Award for Local Government Partners, Outstanding Sustainability Achievement Award, awarded to the CLAM Project by Environs Australia
- Year: 2007** Stormwater Industry Award for Excellence in Software Development for the HICAM tool (Hornsby Council application of the CLAM approach)
- Year: 2004** Early Career Research Excellence Award for Integrated Systems, International Environmental Modelling and Software Society
- Year: 2001** Student prize in General Systems at International Congress on Modelling and Simulation (MODSIM2001)

KEY PUBLICATIONS

I have published over 70 refereed articles in the last 5 years. My 5 career best publications are as follows:

1. **Letcher**, R. A., Jakeman, A. J., and Croke, B. F. W. (2004). "Model development for integrated assessment of water allocation options." *Water Resources Research*, 40: W05502.
2. **Letcher**, R. A., Croke, B. F. W., Jakeman, A. J., and Merritt, W. S. (2006). "An integrated modelling toolbox for water resources assessment and management in highland catchments: model description." *Agricultural Systems*, 89:106-131.
3. **Letcher**, R. A., Croke, B. F. W., Merritt, W. S., and Jakeman, A. J. (2006). "An integrated modelling toolbox for water resources assessment and management in highland catchments: sensitivity analysis and testing." *Agricultural Systems*, 89:132-164.
4. **Letcher**, R. A., Croke, B. F. W., and Jakeman, A. J. (2007). "Integrated Assessment modelling for water resource allocation and management - a generalised conceptual framework." *Environmental Modelling and Software*, 22: 733-742.
5. Jakeman, A. J., and **Letcher**, R. A. (2003). "Integrated Assessment and Modelling: Features, Principles and Examples for Catchment Management." *Environmental Modelling and Software*, 18: 491-501.

FUNDED RESEARCH AND CONSULTANCY PROJECTS

Increment: Australian Bush Heritage

- July 2006 to June 2008. A 2 phase project to develop a proposal and reporting tool and process for ABH able to be adopted by NRM organisations including the Federal Government. I have been engaged as a Decision Support Developer, responsible for liaising with the client and their target audience, developing design specifications and project methods, and providing supervision of 2 project staff.

Great Lakes Decision Support System

- September 2006 to June 2008. An 18 month project funded by NHT through the Great Lakes City Council. I am project manager for this project and have developed the DSS concept and design specification. I have also been responsible for coding component models including integration of the estuary processes model and for facilitating discussions with the community based Advisory Committee and drafting major sections of the Water Quality Improvement Plan. I have supervised 3 staff on this project.

Rollout of the WAdss: scoping project

- July 2007 to March 2008. Short project to increase awareness of the WAdss approach amongst CMAs and government agencies in NSW and Queensland to provide opportunities for adoption of approach for planning and decision making. Funded by CRDC.

- Assessing willingness to pay for urban water, wastewater, gas and electricity delivery service standards, ARC Linkage**

 - July 2007 to present. Due for completion June 2010. Chief investigator on project aiming to develop understanding of the nature of willingness to pay (WTP) for utility services standards and the role WTP should play in regulating prices and service quality. In collaboration with University of Sydney.
- Development of a revenue forecasting model for pricing, ACTEW AGL**

 - June 2007 to Jan 2008. Exploratory econometric analysis of revenue, consumption and climate data used to develop and refine a forecasting approach for 15-month ahead revenue forecasts. Undertaken in conjunction with a second consultant: Trevor Breusch.
- Landscape Logic**

 - July 2006 to present. Science coordinator for Landscape Logic Hub. Responsible for supporting management team for the CERF Hub. Liaising with researchers, coordination and communication team, and end users to facilitate better linkages and integration, reporting, implementation of the evaluation framework.
- Ensuring sustainable development in coastal lake catchments of NSW Northern Rivers (Phase 1 and 2)**

 - December 2005 to July 2007. Project manager of 2 large and complex coastal lake assessment and management (CLAM) projects. Involved supervision of 4 ANU staff members and 6 consultants. Provided coordination, project directions and oversight of methods, development of tools, reporting etc.
- An Integrated Catchment Model for Hornsby Shire**

 - Late 2005 to mid 2006. This project involved development of a CLAM tool for Hornsby Shire Council (HICAM). It was run in conjunction with Cardno Willing consultants. It led to the development of an ARC Linkage application with Hornsby Shire Council.
- Integrating Economic Valuation and Water Quality Modelling for Improving Management of Coastal Catchments**

 - May 2005 to present. Chief investigator on ARC Linkage grant focused on management and modelling of coastal lakes in the Eurobodalla Shire area.
- Development of a DSS in the Namoi and Gwydir catchments**

 - September 2002 to August 2005. Chief investigator on three year project involving completion and delivery of two integrated Decision Support Systems (WAdss), one each for the Gwydir and Namoi valleys, based on work undertaken in my PhD thesis. Funding provided by the Cotton Research and Development Corporation.
- Sustainability Assessments of Coastal Lakes – Integration Component**

 - June 2004 to March 2006. Involved in development of sustainability assessment models for 8 NSW coastal lake systems using a Bayesian Network approach to system integration. Specific expertise is in integration methods and economic valuation. Funded by the Comprehensive Coastal Assessment, Department of Infrastructure, Planning and Natural Resources, NSW.
- Modelling Economic-Ecological Impacts in NSW Coastal Catchments – Feasibility Study**

 - August to September 2004. Brief study to review methods for integrating ecological and economic valuation approaches for considering the sustainability of coastal lake systems. Included development of a prototype model for Wallis Lake. Funded by the NSW Department of Environment and Conservation.
- Development of statewide standards and targets for natural resource issues, Natural Resources Commission**

 - August to September 2004. Project to develop guidelines for developing targets and standards for NSW CMA's. The project was run by EarthTech. ANU role was to provide expert advice and feedback on recommendations. Funded by the Natural Resources Commission.
- IWRAM Project**

 - January 2001 to June 2004. Involved in Integrated Water Resources Assessment and Management Project, Northern Thailand. Responsible for completion of socioeconomic component of project and in aiding the integration between socioeconomics and the biophysical toolbox, which includes hydrological, crop and erosion modelling components. Funding provided by ACIAR.

- Climate variability in Mali, World Bank**
 - November 2003 to May 2004. Consultancy for the World Bank focused on identifying the nature of climate variability in Mali and its effects on the economy.
- Potential for climate forecasts in Australian agriculture**
 - 2003. Collaborative project with CSIRO Land and Water and University of Melbourne to assess the potential value of climate forecasts to decision making in Australian agricultural systems. Funding provided by Land and Water Australia.
- Development of a Module to calculate Economic Indicators, CRCCH**
 - 2002 – 2003. Scoping study conducted for the CRC for Catchment Hydrology. Involved a review and classification of economic modelling techniques and indicators as well as facilitation of two stakeholder workshops identifying key economic and social impacts of concern.
- Environmental Trust Project, Ben Chifley Catchment**
 - January 2001 to March 2004. Involved in a project in the Ben Chifley Dam catchment, identifying and assessing management options for controlling nutrient and sediment delivery to the dam (Bathurst water supply).
- NPI Stage II, for NSW EPA**
 - August 1999 to May 2000. Undertook a comparison of techniques to estimate catchment exports. The project was undertaken by Sinclair Knight Merz and ICAM for the NSW EPA.
- NPI Stage I, for NSW EPA**
 - December 1998 to February 1999. Completed a review of techniques to estimate catchment exports for the NSW EPA. This project was undertaken by ICAM at the ANU in conjunction with Southern Cross University. The results from this project have been published as an EPA technical paper, as well as in two journal and two conference articles.
- Murray-Darling Basin Commission (MDBC), Farm Dams Project**
 - Undertook an analysis of the impacts of farm dams on streamflow response in a three catchments as a part of the MDBC project "Impacts and Implications of Farm Dams on Catchment Yields". ICAM and Sinclair Knight Merz collaborated to undertake this project. This work formed the basis of work completed for my Honours thesis in Mathematics at the ANU.
- ACTEW**
 - 1998 to the present. An on-going association with ACTEW, undertaking a number of small projects in the areas of water pricing, revenue forecasting and statistical issues relating to meter reading and testing.

COMMUNITY AND OUTREACH

- Member of the Editorial Board, Environmental Modelling and Software.
- Guest editor of Special Issues of two journals (Integrated Assessment; Environmental Modeling and Software);
- 2000 to 2006. Secretary of International Environmental Modelling and Software Society (IEMSS).
- 2006 to present. Member of Board of International Environmental Modelling and Software Society (IEMSS).
- Co-organiser of special session on Integrated Assessment at First biennial meeting of International Environmental Modelling and Software Society (iEMSs2002) held in Lugano, Switzerland, June 2002.
- On scientific organizing committee of iEMSs 2002, iEMSs 2004, iEMSs 2006, MODSIM 2005 international conferences; on International Program Committee for International Conference on Environmental Modelling and Simulation (EMS 2004), International Association of Science and Technology Development (IASTED).
- Organised email discussion group on Integrated Assessment at the Ecosummit 2000, held in Halifax Nova Scotia.
- Invited participant at Scenarios "Scoping" Workshop for Global Environmental Change and Food Security (GECAFS) Project, Rome, Italy, May 2004.
- Acted as external project reviewer for CRC for plant based solutions to dryland salinity, 2004.
- Member Technical Advisory Group for Stage 2 of the Sustainable Water Allocation Program in the CRC for Catchment Hydrology (2003).