
Groundwaters of Marlborough

2011

by

Peter Davidson and Scott Wilson

Edited by

Peter Hamill

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Peter Davidson



Peter Davidson is a graduate in geology from the University of Otago and post graduate study at the University of New South Wales. He has spent all his working life studying the groundwater resources of Marlborough. Firstly with the Marlborough Catchment and Regional Water Board, and subsequently the Marlborough District Council. The identification of naturally occurring arsenic, the study of deep aquifers containing the oldest groundwater in the country and development of a unifying model of Wairau Plain groundwater flow have provided the most satisfaction. He is proud of continuing the legacy started in the 1970s of nurturing high quality archives of information on local groundwater resources, and setting down in print the lessons learnt over many decades at the public expense and for the good of all. He is an active member of the New Zealand Hydrological Society.

Scott Wilson



Scott Wilson has an honours degree in geology from the University of Otago and a masters degree from Victoria University of Wellington. He has worked in New Zealand and around the world on geological studies, water resources research and mineral exploration projects. He was employed as a groundwater scientist at the Marlborough District Council between 2003 and 2005. His most significant contribution to improving the hydrogeological knowledge of the Marlborough region were the assessments of the Rarangi, Riverlands and Southern Springs aquifer systems. During his time in Blenheim he advanced new procedures for collecting groundwater quality samples and up to 2011 provided groundwater modelling advice to the Marlborough District Council as an independent consultant. Scott Wilson is currently the groundwater scientist at Otago Regional Council based in Dunedin. He is an active member of the New Zealand Hydrological Society and RedR.

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We gratefully acknowledge the contributions that our predecessors have made to the understanding of Marlborough's groundwaters over the last fifty years. In that time there have been numerous people involved in groundwater investigations either directly or indirectly, including Council staff, well drillers, consultants and landowners. To all that have been involved - thank you.

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Peter Davidson and Scott Wilson - June 2011

Foreword

This book documents current community knowledge of groundwater resources in Marlborough. Its focus is on aquifer science and hydrogeology rather than issues or their management. The contents are generally accepted facts or principles. However it is not the last word but a snapshot in time, which will be updated in the future as better information comes to hand.

The original edition was published in 1988 by the Marlborough Catchment and Regional Water Board, a predecessor organisation of the Marlborough District Council. It was the second volume of a three part series dedicated to underground water. The suite of books was entitled: "Water and Soil Resource of the Wairau"; and described local natural resources including freshwater, soils and climate.

Much of the original publication relating to the Wairau Aquifer remains unchanged, however many new sections have been added about recently discovered aquifers and advances in hydrological science. In part this reflects increased demand for freshwater to irrigate crops over the past two decades. As a result this document is considerably longer than the first edition and features new areas.

The scientific information presented is a fundamental requirement for the formulation of policies and strategies necessary for managing the regions underground water resources.

The first part of the book introduces the nature and science of aquifers, while the second part explores each of the local groundwater systems in Marlborough.

It is intended for a general audience as well as the specialist. We hope it is of interest to all Marlburians as most of us and many land based natural systems, rely on groundwater for their everyday existence. In short it is the most precious of our natural resources economically, ecologically, socially and for our everyday existence.

I congratulate Peter Davidson, Scott Wilson, Peter Hamill and the other staff contributors for a fine , professional piece of work, which will cornerstone policy making for water allocation for the Regional Policy Statement and Resource Management Plans, currently under review, 2011.

Councillor Peter Jerram – Chair of the Environment Committee Marlborough District Council.

June 2011