

Part 3: Emergence of groundwater science in NZ

Interviewee: Dr Hugh Thorpe

Interviewer: Dr MS Srinivasan

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“In 1978, the Water and Soil Division was setting up its science centre in Christchurch, and there was a job going to lead the groundwater group, so I put in for that and got it. And it was great, I mean I was very keen to get away from Wellington anyway, for reasons that may be apparent. I came down here and got the groundwater group going, and so I wound up with David Scott, whom I worked with for many years, and I can't think who else we had. And David was the guy that I worked with most closely, but we also had the, and but the other advantage of being in the science centre down here you see was we had a water quality group. So David and I were groundwater quantity, but we could get Murray Close and Lester Sinton involved on groundwater quality issues, and that was kind of a unique combination. We recruited other scientists into the group such as Rob Burden, Paul White and Michael Broadbent plus several very competent technicians.”

“The Ministry of Works was heavily involved in irrigation development in those days. At that stage they were proposing the Lower Rakaia Irrigation Scheme, which, 40 odd years later, has eventually come to fruition in the Barrhill Chertsey Irrigation Scheme. But in those days the irrigation engineers were turning their thoughts to using groundwater rather than just using surface water. And so the task that we were given was to quantify the groundwater resources between the Rakaia and Ashburton Rivers, because they wanted to minimise the amount taken out of the river and maximise the amount taken out of the groundwater system.”

“Dave Scott developed a groundwater model, people like myself and Rob Burden contributed bits to it. But all through this time, we became very aware that the understanding of groundwater as a resource in New Zealand was very limited. We just didn't have the skills. So we initiated training programmes for catchment boards on groundwater. And then people like Dave Murray at Otago University, the late Dave Murray, began teaching groundwater and

groundwater modelling. And there was some groundwater being taught at the Victoria University of Wellington, and I believe some also in Auckland. That sort of got groundwater science at the applied level underway in New Zealand, and that was very satisfying to be a part of that.”

“We didn’t really talk about surface and ground water interaction in those terms all that much, although the Heretaunga job was essentially surface water/groundwater interaction and the Rakaia/Ashburton job was also surface water/groundwater interaction and there it suddenly dawns on you that groundwater are not separate systems quite often.”

“In New Zealand, particularly in Canterbury where you have these huge gravel fans and big alpine rivers, when they come down into the lower part of these gravel fans they just leak water into the groundwater system, but quite apart from that of course little rivers like the Selwyn, if you go up beyond Whitecliffs there’s still quite a significant flow, but it’s been dry right across the plains, well nearly all the plains, for months. It only really resurfaces somewhere between State Highway 1 and the coast.”

“In 1992, we all got caught up in the restructuring of the scientific civil service, which was quite a setback for groundwater I would have to say, because it became, again, political. The groundwater hydrology and surface water hydrology within the Ministry of Works should have stayed together but they didn’t. We got split off and put into what became Geological and Nuclear Sciences. There was interest in geophysics, geology and stuff like that, and groundwater was just right on the margins.”

“After 1992, I went to the Civil Engineering department at the University of Canterbury, Christchurch, on a grace and favour basis. I never had an official title. I never had a salary. All they gave me was some space to work from and I was very grateful to that. I did teaching on contract, so I continued to teach groundwater, both at Canterbury University and at Lincoln, and running courses on contract with GNS or whoever.”