

QUALIFICATIONS

BSc (Hons) Zoology, University of Otago, 1999

PhD Zoology, University of Otago, 2004

PROFESSIONAL AFFILIATIONS

[New Zealand Freshwater Sciences Society](#)

[North American Benthological Society](#)



ROLE AT CAWTHRON

Dean joined the freshwater team at Cawthron in 2005 when he returned to New Zealand after spending two years as a post-doctoral researcher at the University of Vermont in the U.S.A. working on a project considering how non-point source pollutants affect stream macroinvertebrates. His main area of expertise is the ecology of the hyporheic zone, the area where rivers and streams interact with underlying groundwater.

SPECIAL INTERESTS

- Ecology of the hyporheic zone including the role of hydrological, sedimentary, physiochemical, and biotic factors in determining the distribution of hyporheic invertebrates
- Stream macroinvertebrate ecology and taxonomy
- The role physical disturbances, such as flooding and droughts, play in the ecology of streams and rivers
- Effects of land use on aquatic ecosystems
- Statistical analysis and experimental design

SELECTED PUBLICATIONS

Olsen DA, Matthaei CD, Townsend CR 2007. Patch history, patch dynamics and heterogeneous community composition: perspectives from a manipulative stream experiment. *Marine and Freshwater Research* 58: 307-314.

Olsen DA 2006. Macroinvertebrates of the Wairau River and the likely consequences of proposed hydroelectric development. DOC Research & Development Series 256. Department of Conservation, Wellington. 25 p.

Olsen DA, Townsend CR 2005. Flood disturbance and the hyporheic zone of a gravel-bed stream: effects on invertebrates, sediments and particulate organic matter. *Freshwater Biology* 50: 839-853.

Olsen DA, Townsend CR 2003. Hyporheic community composition in a gravel-bed stream: influence of vertical hydrological exchange, sediment structure and physiochemistry. *Freshwater Biology* 48: 1363-1378.

Olsen DA, Matthaei CD, Townsend CR 2002. Freeze core sampling of the hyporheos: implications of use of electropositioning and different settling periods. *Archiv für Hydrobiologie* 154: 261-274.

Olsen DA, Matthaei CD, Townsend CR 2001. Influence of reach geomorphology on hyporheic communities in a gravel-bed stream. *New Zealand Journal of Marine and Freshwater Research* 35: 181-190.