



Keith Bolton

Chief Scientist and Founding Director

Postdoctoral Fellowship, Centre for Acid Sulfate Soil Research, (SCU)

PhD Environmental Engineering (Griffith University)

Bachelor of Agricultural Science (The University of Queensland)

Member of Australian Water Association

Licensed Asbestos Assessor

Dr Keith Bolton is an environmental and agricultural scientist with two decades of research and monitoring experience relating to constructed wetlands, land-based effluent reuse, environmental monitoring, and soil contamination. Dr Bolton has 7.5 years' experience supervising operation and maintenance programmes for water supply and sewerage systems in isolated Aboriginal Communities and other village-scale developments. Dr Bolton is an experienced practitioner in the areas of on-site sewage design and construction, contaminated land assessment, soil and water monitoring, and asbestos assessment.

Roles

2004 – present: Founding Director and Chief Scientist, Ecotechnology Australia P/L (trading as Ecoteam)

2002-04: Postdoctoral Fellow and Construction Manager, 24ha Byron Effluent Reuse Wetland, Southern Cross University and Byron Shire Council.

2001-2002: Research Fellow, Southern Cross University: Development of North Coast Wetland Assessment Technique

Key Projects

Design / Construction of Orana Haven's wetland water treatment system (2015) – Senior designer, project manager and construction supervisor

Proposed Biochar and Composting Facility (2015) – Supervisor of Impact Assessments & Environmental Management Plan; Principal point of contact for Council and EPA.

Feasibility studies: Constructed wetlands for leachate and effluent treatment in Gold Coast (2014): for Gold Coast Water. Role: Senior Author.

Operation and Maintenance of Water and Sewerage Systems at three Aboriginal Communities (2008 – present), for DPI Water and Clarence Valley Council. Role: Project Supervisor

Brisbane Airport Stormwater Treatment Wetlands (2012/13), for Brisbane Airport Corporation. Role: Key design member.

Contaminated land / ASS assessment and remediation (2006 – present), for Ecoteam, Role: Project Supervisor for >50 sites

Designer – on-site sewage management systems (2004 – present), for Ecoteam, Role: Senior designer/supervisor for >70 systems.

Leachate Management: Lismore Waste Facility: (2007-present), for Northern Rivers Waste. Role: Programme Supervisor.

Borneo treatment wetlands for an orang-utan sanctuary (2011-12), for Borneo Orang-utan Survival Foundation. Role: Principal Designer and Construction Supervisor.
Malabugilmah

24 ha Byron Bay Effluent Reuse Wetland, (2002 – 2005) for Southern Cross University and Byron Shire Council. Role: Supervising Scientist and Construction Supervisor.

Loganholme Sewage Treatment Wetlands, (1996 – 1999) for Griffith University. Role: Design and Construction Supervisor, Doctoral Candidate.

Publications

- Bolton, K.G.E. and Taylor, A.R. (2015). Constructed wetlands for remote villages: Wastewater treatment and ancillary benefits. NSW Engineers & Operators Regional Conference – Ballina 26-27 October:
- Bolton, L and Bolton, K. (2013). Design, construction and performance of a horizontal subsurface flow wetland system in Australia. *Water Science & Technology* 68, 9
- Bolton, K.G.E. (2012). Paperbark Trees for Constructed Wetlands: Two Decades Experience. 13th International Conference on Wetland Systems for Water Pollution Control 24-29 November 2012. Murdoch University, Western Australia
- Bolton, L.M.W, and Bolton, K.G.E (2012). Performance and ancillary benefits of a tree-based wetland treatment system in a remote Aboriginal Community receiving septic tank effluent. 13th International Conference on Wetland Systems for Water Pollution Control, 24-29 November 2012. Murdoch University, Western Australia
- Davison, L., Bolton, K.G.E., Pont, D and Headley, T. (2006) Dealing with nitrogen in subtropical Australia: seven case studies in the transfer of technological innovation *Ecological Engineering*, **28**, 213-223.
- Taffs, KH, Parr, JF & Bolton, KG (2006), 'Using palaeobotanical techniques to guide peatland restoration. A case study from Byron Bay, Australia', *Ecological Management and Restoration*, vol. 7, no. 2, pp. 133-135.
- Bolton, K.G.E. (2004) A 24 hectare constructed Melaleuca wetland for effluent reuse, acid sulfate soil management and carbon credits in Byron Bay, Australia. 9th International Conference on Wetlands for Water Quality Control, 26 – 30 September 2004, Avignon, France.
- Bolton, K.G.E., Sullivan, L.A., Rosicky, M.A., Wald, N.J., Balson, A. and Bruce, J.J. (2002) Changes in water and soil chemistry in response to effluent irrigation in a peat acid sulfate soil. 5th International Acid Sulfate Soils Conference. August 25th-30th, Tweed Heads, NSW, Australia.
- Bolton, K.G.E. and Warner, P. (2002) Effluent reuse for acid sulfate soil management, wetland regeneration and carbon credits. 5th International Acid Sulfate Soils Conference. August 25th-30th, Tweed Heads, NSW, Australia.
- Greenway, M., and Bolton, K.G.E. (2001) Role of constructed Melaleuca wetlands in water pollution control in Australia. In *Treatment Wetlands for Water Quality Improvement*. pp63-72
- Bolton, K.G.E. (2002) North Coast Wetland Assessment Technique: Paperbark Wetlands. ISBN 0 7347 5232 6 Southern Cross University and Department of Land and Water Conservation..
- Bolton, K.G.E. (2002) North Coast Wetlands Assessment Technique: Fresh Water Wetlands. ISBN 0 7347 5231 8. Southern Cross University and Department of Land and Water Conservation.
- Bolton, K.G.E. (2001) A feasibility study of effluent reuse and acid sulfate soil management at West Byron. Byron Shire Council and Department of Public Works and Services.
- Bolton, K.G.E. and Greenway, M. (1999) Nutrient sinks in a constructed Melaleuca wetland receiving secondary treated effluent. *Wat. Sci. Tech.*40(3) 341-347.
- Bolton, K.G.E. and Greenway, M. (1999). Pollutant removal capability of a constructed Melaleuca wetland receiving primary settled sewage. *Wat. Sci. Tech.* 39 (6) pp 199-206.
- Bolton, K.G.E. and Greenway, M. (1998) Nutrient sinks in a constructed Melaleuca wetland receiving secondary treated effluent. In *Proceedings of The 6th International Conference on Wetland Systems for Water Pollution Control*, 29 October - 4 November 1998, Aguas de Sao Pedro, Brazil.
- Bolton, K.G.E. (1998) *From Wastes to Resources: Constructed Melaleuca Wetlands for Sewage Treatment Works*. Doctoral thesis, School of Environmental Engineering, Griffith University.
- Bolton, K.G.E. and Greenway, M. (1997). Constructed Melaleuca wetlands: an integral component for sewage treatment works. In *Proceedings of BNR3, Brisbane Convention Centre, Brisbane*. 30 November - 4 December 1997.
- Bolton, K.G.E. and Greenway, M. (1997). A feasibility study of Melaleuca trees for use in constructed wetlands in subtropical Australia. *Wat. Sci. Tech.* 35 (5), 247-254.
- Greenway, M. and Bolton, K.G.E. (1996) From wastes to resources - turning over a new leaf: Melaleuca trees for wastewater treatment. *Env. Res. Forum*, 5-6, 363-366.
- Bolton, K.G.E. and Greenway, M. (1996). A feasibility study of Melaleuca trees as candidates for constructed wetlands, SE Queensland, Australia. In *Proceedings of The 5th International Conference on Wetland Systems for Water Pollution Control*, September 15-19 1996, Vienna, Austria.
- Greenway, M. and Bolton, K. G. E. (1996) Melaleuca wetlands - an integrated solution to wastewater polishing, effluent reuse and ecological sustainability. In *Proceedings of AWWA QLD Branch Regional Conference on "The Water Cycle"*, Byron Bay November 1996.