

**Gary J. Hancock**  
**Publication list**

***First-author Journal Papers***

1. Hancock, G.J., Webster, I. T. and Stieglitz, T. C. (2006). Horizontal mixing of Great Barrier Reef waters: Offshore diffusivity determined from radium isotope distribution. *Journal of Geophysical Research*, **111**, C12019, doi:10.1029/2006JC003608.
2. Hancock, G.J., Murray, A.S., Brunskill, G.J. and Argent, R.M. (2006). Ra isotopes in trees: Their application to the estimation of heartwood growth rates and tree ages. *Global Biogeochemistry Cycles*, **20**, GB4007, doi:10.1029/2005GB002641.
3. Hancock, G.J., Webster, I.T., Ford, P.F. and Moore W.S. (2000). Using Ra isotopes to examine transport processes controlling benthic fluxes into a shallow estuarine lagoon. *Geochimica et Cosmochimica Acta*, **64**, 3685-3699.
4. Hancock, G.J. (2000). Identifying resuspended sediment in an estuary using the  $^{228}\text{Th}/^{232}\text{Th}$  activity ratio: the fate of lagoon sediment in the Bega River estuary, Australia. *Marine and Freshwater Research*, **51**, 659-67.
5. Hancock, G.J. and Hunter, J.R. (1999). Use of excess  $^{210}\text{Pb}$  and  $^{228}\text{Th}$  to estimate rates of sediment accumulation and bioturbation in Port Phillip Bay, Australia. *Marine and Freshwater Research*, **50**, 533-45.
6. Hancock, G.J., and Murray, A.S. (1996). Source and distribution of dissolved radium in the Bega River estuary, southeastern Australia. *Earth and Planetary Science Letters*, **138**, 145-155.
7. Hancock, G.J. and Martin, P. (1991). Determination of radium in environmental samples by alpha-particle spectrometry. *Applied Radiation and Isotopes*, **42**, 63-69.

***Co-authored Journal Papers***

8. Fluin, J., Gell, P., Haynes, D., Tibby, J. and Hancock, G. (2007). Palaeolimnological evidence for the independent evolution of neighbouring terminal lakes, the Murray Darling basin, Australia. *Hydrobiologia*, **591**, 117-134.
9. Lamontagne, S., Le Gal La Salle, C., Hancock, G.J., Webster, I.T., Simmons, C.T., Love, A.J., James-Smith, J., Smith, A.J., Kämpf, J. and Fallowfield, H.J. (in press). Radium and radon radioisotopes in regional groundwater, intertidal groundwater, and seawater in the Adelaide Coastal Waters Study area: Implications for the evaluation of submarine groundwater discharge. *Marine Chemistry*.
10. Leslie and Hancock (in press)
11. Gell, P., Tibby, J., Little, Fiona, Baldwin, D. and Hancock, G. (2007). The impact of regulation and salinisation on floodplain lakes: the lower River Murray, Australia. *Hydrobiologia*, **591**, 135-146.
12. Haynes, D., Gell, P., Tibby, J., Hancock, G. and Goonan, P. (2007). Against the tide: the freshening of naturally saline coastal lakes, southeastern South Australia. *Hydrobiologia*, **591**, 165-183.

13. Bickford, S., Gell, P. and Hancock, G.J. (in press). Palaeoecological and documentary histories of wetland and terrestrial vegetation change in the Fleurieu Peninsula since European settlement. Accepted by *The Holocene*.
14. Everett, S.E., Tims, S.G., Hancock, G.J., Fifield, L.K. and Bartley, R. (in press). Comparison of Pu and <sup>137</sup>Cs as tracers of soil and sediment in a terrestrial environment. Accepted by *J. of Environmental Radioactivity*.
15. Bostock, H.C., Brooke, B.P., Ryan, D.A., Hancock, G.J., Piestch, T., Packet, B., and Harle, K. (2007). Holocene and modern sediment budgets and trapping efficiency of the subtropical macrotidal Fitzroy river estuary, southeast Queensland, Australia. *Sedimentary Geology*, **201**, 321-340..
16. Gell, P., Fluin, J., Tibby, J., Haynes, D., Khanum, S., Walsh, B., Hancock, G., Harrison, J., Zawecki, A. & Little, F. (2006). Changing Fluxes of Sediments and Salts as Recorded in lower River Murray wetlands, Australia. International Association of Hydrological Sciences meeting, Dundee, July 3-7, 2006; IAHS publication 306.
17. MacGregor, A.J., Gell, P.A., Wallbrink, P.J. and Hancock, G. (2005). Natural and post-European variability in water quality of the lower Snowy River floodplain, eastern Victoria, Australia. *River research and Applications*, **21**, 201-213.
18. Gell, P., Tibby, J., Fluin, J., Reid, M., Adamson, K., Bulpin, S., MacGregor, A., Wallbrink, P., Hancock, G. and Walsh, B. (2005). Accessing limnological change and variability using fossil diatom assemblages, south-east Australia. *River research and Applications*, **21**, 257-269.
19. Gell, P.A., Bulpin, S., Wallbrink, P., Hancock, G. and Bickford, S. (2005). Tareena Lagoon – a paleolimnological history of an ever-changing wetland, Chowilla Floodplain, lower Murray-Darling Basin, Australia. *Marine and Freshwater Research*, **56**, 441-456.
20. Bormans, M., Ford, P., Fabbro, L., and Hancock, G. (2004). Onset and persistence of cyanobacterial blooms in a large impounded tropical river in Australia. *Marine and Freshwater Research*, **55** (no. 1): 1-5.
21. Martin, P and Hancock, G.J. (2004). Peak resolution and tailing in alpha-particle spectrometry for environmental samples. *Applied Radiation and Isotopes*, **61**, 161-165.
22. Olley, J.M., De Deckker, P. Roberts, R.G., Fifield, L.K., Yoshida, H. and Hancock, G. (2004). Optical dating of deep-sea sediment using single grains of quartz: a comparison with radiocarbon. *Sedimentary Geology*, **169**, 175-189.
23. Tims S.G., Hancock G.J., Wacker L. and Fifield L.K. (2004). Measurements of Pu and Ra isotopes in soils and sediments by AMS. *Nuclear Instruments and Methods B*, **223-224**, 796-801.
24. Wallbrink, P.J. Olley, J.M. and Hancock, G. (2002) Estimating residence times of sediment in river channels using fallout Pb-210, In, *The structure function and management implications of fluvial sedimentary systems*, eds. Dyer, F. Thoms, M. and Olley, J.M IAHS red book series, No. 276, 425-432.
25. Webster, I.T., Ford, P.W. and Hancock, G. (2001). Phosphorus dynamics in Australian lowland rivers. *Marine and Freshwater Research*, **52**, 127-137.

26. Ford, P.W., Bormans, M. and Hancock, G.J. Para Grass (*Brachiaria mutica*) and nitrogen cycling in a tropical barrage. Accepted by *Verhandlungen der Internationale Vereinigung für Theoretische und angewandte Limnologie*.
27. Mooney, S.D., Radford, K.L. and Hancock, G. (2001). Clues to the 'burning question': pre-European fire in the Sydney coastal region from sedimentary charcoal and palynology. *Ecological Management and Restoration*, **2**, 203-212.
28. Walker, D., Head M.J., Hancock, G.J. and Murray, A.S. (2000). Establishing a chronology for the last 1000 years of laminated sediment accumulation at Lake Barrine, a tropical upland maar lake, northeastern Australia. *The Holocene*, **10**, 415-427.
29. Bird, F.L., Ford, P.W. and Hancock, G.J. (1999). Effect of burrowing macrobenthos on the flux dissolved substances across the water-sediment interface. *Marine and Freshwater Research*, **50**, 523-32.
30. Martin, P., Hancock, G.J., Johnston, A. and Murray, A.S. (1998). Natural-series radionuclides in traditional North Australian Aboriginal foods. *Journal of Environmental Radioactivity*, **40**, 37-58.
31. Webster I.T., Hancock G.J. and Murray, A.S. (1995). Modelling the effect of salinity on radium desorption from sediments. *Geochimica et Cosmochimica Acta*, **59**, 2469-2476.
32. Martin, P., Hancock, G.J., Paulka, S. and Akber, R.A. (1995). Determination of <sup>227</sup>Ac by  $\alpha$ -particle spectrometry. *Applied Radiation and Isotopes*, **46**, 1065-1070.
33. Webster I.T., Hancock, G.J. and Murray, A.S. (1994). On the use of radium isotopes to examine pore water exchange in an estuary. *Limnology and Oceanography*, **39**, 1917-1927.
34. Pettersson, H.B.L., Hancock, G., Johnston, A. and Murray, A.S. (1993). Uptake of uranium and thorium series radionuclides by the water-lily, *Nymphaea violacea*. *Journal of Environmental Radioactivity*, **19**, pp 85-108.
35. Murray, A.S., Johnston, A., Martin, P., Hancock, G., Marten, R., Pfitzner, J. (1993). Transport of naturally occurring radionuclides by a seasonal tropical river, northern Australia. *Journal of Hydrology*, **150**, pp 19-39.
36. Akber, R.A., Johnston A. and Hancock, G. (1992). Absorption of radionuclides and other solutes in a natural wetland system. *Radiation Protection Dosimetry*, **45**, pp. 293-297.

#### **Other Refereed Publications**

37. Hancock, G., Edgington, D.N., Robbins, J.A., Smith, J.N., Brunskill, G. and Pfitzner, J. (2002). Workshop on radiological techniques in sedimentation studies: methods and applications. In, "Fernandez J.M. & Fichez R., 2002, *Environmental changes and Radioactive tracers*", pp 233-251; IRD Editions, Paris, 532 p.
38. Caitcheon, G., Prosser, I., Wallbrink, P., Douglas G., Olley, J., Hughes, A., Hancock, G. and Scott, A. (2001). Sediment delivery from Moreton Bay's main tributaries: a multifaceted approach to identifying sediment sources. Proceedings of the Third Australian Stream Management Conference, volume 1, pp.103-107, Brisbane Queensland, August 27-29, 2001.

39. Sherman, B. Ford, P., Mitchell, A. and Hancock, G. (2001). Greenhouse emissions from reservoirs: Is Australia environmentally friendly? Proceedings of NZCOLD/ANCOLD Conference on dams.
40. Caitcheon, G.G., Olley, J.M., Hancock, G., and Wallbrink, P.J. (1999). Exposing the phosphorus myth: looking for evidence of anthropogenic phosphorus in large inland basins. International Association of Water Quality Proceedings of the International Conference on Diffuse Pollution. CSIRO Land and Water, Perth. 287-295.
41. Hancock, G.J. (1998). Determining sediment resuspension in an estuary using the  $^{228}\text{Th}/^{232}\text{Th}$  activity ratio. SPERA96: Radioactivity in the Environment, Darwin, 1996, Eds. R.A. Akber and P. Martin. South Pacific Environmental Radioactivity Association.
42. Hancock, G.J and Martin, P. (1996). Reply to Vargas and DeSoto: on the determination of  $^{223}\text{Ra}$  and  $^{224}\text{Ra}$  from their daughter products in electrodeposited sources of radium. *Applied Radiation and Isotopes*, **47**, 131-132.
43. Martin, P. and Hancock, G. J. (2004). Routine analysis of naturally occurring radionuclides in environmental samples by alpha-particle spectrometry. Supervising Scientist Report 180, Supervising Scientist, Darwin, NT, Australia.

#### ***Internally-refereed Reports***

44. Hancock, G.J., Wilkinson, S.N. and Read A. (2007). Sources of sediment and nutrients to the Gippsland Lakes assessed using catchment modelling and sediment tracers. *CSIRO Land and Water Science Report 70/07*.
45. Wilkinson, S.N., Wallbrink, P.J., Hancock, G.J., Blake, W.H., Shakesby, R. and Farwig, V. (2007). Impacts on water quality by sediments and nutrients released during extreme bushfires: Report 4: Impacts on Lake Burrigorang [Report for the Sydney Catchment Authority], *CSIRO Land and Water Science Report 6/07*, CSIRO, 18 pp. <http://www.clw.csiro.au/publications/science/2007/sr6-07.pdf>
46. Bostock, H.C., Ryan, D.A., Brooke, B.P., Hancock, G. and Pietsch, T. (2005). Sediment accumulation and Holocene evolution of Keppel Bay, southeast, Queensland, Australia. Milestone report AC65 for the CRC for Coastal Zone, Estuary and Waterway Management.
47. Hancock, G.J. and Pietsch, T. (2006). Sedimentation in the Gippsland lakes as determined from sediment cores. Report to the Gippsland Coastal Board. CSIRO Land Water Science Report 40/06.
48. Wilkinson, S., Hancock G., Read, A. and Davey, B. (2005). Sources of sediment and nutrients to the Gippsland Lakes: preliminary modeling results. Client report to the Gippsland Coastal Board.
49. Hancock, G.J., Kuhnen, M., Radke, L., Brooke, B., Skene, D. and Ryan, D. (2004). Sedimentation history of the floodplain of the upper Fitzroy estuary as determined from sediment cores from Crescent Lagoon. Milestone report AC39 for the CRC for Coastal Zone, Estuary and Waterway Management.
50. Hancock, G.J. and Ford, P.W. (2004). Suspended sediment deposition and transport in Keppel Bay: 2004 dry season sample collection and analysis. Milestone report AC34 for Coastal Zone, Estuary and Waterway Management.

51. Lamontagne, S., Le Gal La Salle, C., Simmons, C. James-Smith, J. Harrington, N., Love, A., Smith, A., Hancock, G. and Fallowfield, H. (2004). Estimation of groundwater and groundwater N discharge to the Adelaide coastal Waters Study area. CSIRO Land and Water Client Report for the Flinders University.
52. Wallbrink, P., Hancock, G., Olley, J., Hughes, A., Prosser, I., Hunt, D., Rooney, G., Coleman, R. and Stevenson, J. (2003). The Western Port Sediment Study. CSIRO Consultancy Report.
53. Wallbrink, P. Olley, J. and Hancock, G. (2003). Tracer assessment of catchment sediment contributions to Western Port, Victoria. CSIRO Land and Water Technical report 8/03.
54. Wallbrink, P. and Hancock, G. (2003). Western Port Sediment Study: background and Literature Review. CSIRO Land and Water Technical Report 12/03.
55. Hancock, G.J., Olley, J.M. and Wallbrink, P.J. (2001). Sediment transport and accumulation in Westernport. CSIRO Land and Water Technical Report 47/01.
56. Olley, J., Caitcheon, G.G., Hancock, G., Wallbrink, P.J. (2001). Tracing and dating techniques for sediment and associated substances. CSIRO Land and Water, Canberra
57. Hancock, G.J. (2001). Sediment accumulation in central Moreton Bay as determined from sediment core profiles. CSIRO Land Water, Canberra. Consultancy Report.
58. Caitcheon, G., Prosser, I., Douglas, G., Wallbrink, P., Olley, J., Hancock, G., Hughes, A., Scott, A. and Stevenson, J. (2001). Sources of sediment in Southeast Queensland. Report on Project SS, Phase 3 for the Southeast Queensland Regional Water Quality Strategy.
59. Oliver, R.L., Hart, B.T., Olley, J.M., Grace, M., Rees, G., Caitcheon, G., (2000). The Darling River: algal growth, cycling and sources of nutrients', (MDBC Project M386).
60. Caitcheon, G. and Jakeman, A. (1999) The sources of sediment and phosphorus in the Namoi River Basin. CSIRO Land and Water, Canberra. Technical Report edited by G Caitcheon and A Jakeman.
61. Caitcheon, G., Roddy, B., Hancock, G. and Olley, J. (1998). A preliminary study to assess the potential sources of phosphorus in the Goulburn City Water supply. CSIRO Land Water technical report 19/98.
62. Hancock, G.J., Webster, I.T. and Murray, A.S, (1997). Estimation of rates of sedimentation, water column mixing and porewater exchange in Port Phillip Bay using fallout and lithogenic radionuclides. CSIRO Land Water, Canberra. Consultancy Report 97-55.
63. Olley, J., Caitcheon, G., Donnelly, T., Hancock, G., Olive, L., Murray, A., Short, D., Wallbrink, P. and Wasson, R. (1995). Sources of suspended sediment and phosphorus delivered to the Murrumbidgee River. CSIRO Land & Water, Canberra. Report 95-32.

***Other Reports, Technical papers***

64. Hancock, G. (1994). The concentration of uranium and thorium series nuclides in sediments and waterlilies from Djalkmara Billabong. Internal Report 136, Supervising Scientist for the Alligator Rivers Region.
65. Martin, P., Akber, R.A., Paulka, S. and Hancock, G. (1993). Radionuclide analyses of water from Nabarlek evaporation ponds and silt traps. Internal Report 117, Supervising Scientist for the Alligator Rivers Region.
66. Akber, R.A., Paulka, S. and Hancock, G. (1993). Bioaccumulation of radionuclides in edible aquatic organisms from South Alligator River: Activity concentration measurements of *Velesunio angasi* mussel. Internal Report 105, Supervising Scientist for the Alligator Rivers Region.
67. Akber, R.A., Hancock, G. and Johnston, A. (1990). Radionuclide retention characteristics of the Djalkmara Billabong. Internal Report 9, Supervising Scientist for the Alligator Rivers Region.
68. Martin, P., Hancock, G., Johnston A. and Murray, A.S. (1992). Bioaccumulation of radionuclides in significant aboriginal bush foods from the Magela and Cooper Creek system. Internal Report 78, Supervising Scientist for the Alligator Rivers Region.
69. Murray, A.S., Johnston, A., Martin, P., Hancock, G., Marten, R. and Pfitzner, J. (1992). Transport of naturally occurring radionuclides in the surface waters of the Magela Creek and flood plain, Northern Australia. Open File Report 93; Supervising Scientist for the Alligator Rivers Region.
70. Martin, P. and Hancock, G. (1992). Routine analysis of naturally occurring radionuclides in environmental samples by alpha-particle spectrometry. Research Report 7; Supervising Scientist for the Alligator Rivers Region.
71. R. Akber and G. Hancock (1990). Bioaccumulation of radionuclides in aquatic organisms from the South Alligator River. Internal Report 21, Supervising Scientist for the Alligator Rivers Region.
72. Norrish, K., Hancock, G. and Rogers, P. (1981). X-R-F Matrix Coefficients for use with Cr and Rh tubes. Technical Memorandum 43/1981, CSIRO Division of Soils.
73. Norrish, K., Hancock, G. and Rogers, P. (1981). Silicon Attenuation Coefficients. Technical Memorandum 34/81, CSIRO Division of Soils.