

List of references

- Abal, E.G. and Dennison, W.C. (1996). Seagrass depth range and water quality in southern Moreton Bay, Queensland, Australia. *Marine and Freshwater Research* **47(6)**: 763–771.
- Almasi, M.N., Hoskin, G.M, Reed, J.K and Milo, J. (1987). Effects of natural and artificial *Thalassia* on rates of sedimentation. *Journal of Sedimentary Petrology* **57(5)**: 901–906.
- Alongi, D. (1988). Benthic nutrient regeneration in the Central Great Barrier Reef In: Baldwin, C.L. (ED) (1988) Nutrients in Great Barrier Reef Region Workshop Series No. 10. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp27–29.
- Aragones, L. and Marsh, H. (2000). Impact of dugong grazing and turtle cropping on tropical seagrass ecosystems. *Pacific Conservation Biology*. **5**: 277–288.
- Arakel, A.V. (1991). Coastal Sedimentation in North Queensland: Past and Present Trends In: Yellowlees, D. (Ed). (1991). Land Use Patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November 1990 (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp180–191.
- Arber, A. (1920). Water Plants: a study of aquatic angiosperms. Cambridge: Cambridge University Press.
- Atkinson, M.J. and Smith, S.V. (1983). C:N:P ratios of benthic marine plants. *Limnology and Oceanography* **28(3)**: 568–574.
- Baker, D.E. and Eldershaw, V.J. (1993). Interpreting soil analysis for agricultural land use in Queensland. (Department of Primary Industries: Queensland) Project Report Series QO93014.
- Baldwin C.L. (Ed) (1988). Nutrients in the Great Barrier Reef Region Proceedings of a workshop held in Townsville, Australia 26 and 27 November 1987. Workshop Series No. 10. Great Barrier Reef Marine Park Authority pp191.
- Baldwin, C.L. (1992). *Impact of Elevated Nutrients in the Great Barrier Reef*, Research Publication No. 20, Townsville.
- Baldwin, C., McGinnity, P, and Byron, G. (1988). Waste Discharge in the Great Barrier Reef Marine Park In: Baldwin C.L. (Ed) 1988 Nutrients in the Great Barrier Reef Region Proceedings of a workshop held in Townsville, Australia 26 and 27 November 1987. Workshop Series No. 10. Great Barrier Reef Marine Park Authority pp3–9.
- Barko, J.W., Gunnison, D and Carpenter, S.R. (1991). Interactions with submersed macrophyte growth and community dynamics *Aquatic Botany* **41**: 33–40.

- Bauersfield, P., Kifer, R.R., Durrant, N.W. and Skyes, J.E. (1969). Nutrient content of Turtle grass (*Thalassia testudinum*). *Proceedings of the International Seaweed Symposium* **6**: 637–645.
- Bell, P. and Gabric, A. (1991). Must GBR pollution become chronic before management reacts. *Science* **22** (4): 117–119.
- Bell, P.F. (1991). Status of Eutrophication in the Great Barrier Reef Lagoon *Marine Pollution Bulletin* **23**: 89–93.
- Bell, P. F. and Elmetri, I. (1995). Ecological indicators of large-scale eutrophication in the Great Barrier Reef lagoon. *Ambio* **24**: 208–215.
- Belperio, A.P. (1983a). Terrigenous sedimentation in the central Great Barrier Reef lagoon: a model from the Burdekin Region. *BMR Journal of Australian Geology and Geophysics* **8**: 179–190.
- Belperio, A.P. (1983b). Late Quaternary terrigenous sedimentation in the Great Barrier Reef Lagoon. In Baker, J.T., Carter, R.M., Sammarino, P.W. and Stark K.P. Eds *Proceedings of the Great Barrier Reef Conference James Cook University* pp71–76.
- Birch W.R. and Birch M. (1984). Succession and pattern of tropical seagrasses in Cockle Bay, Queensland, Australia: A decade of observations. *Aquatic Botany* **19**: 343-367.
- Birch, W. (1975). Some chemical and calorific properties of tropical marine angiosperms compared with those of other plants. *Journal of Applied Ecology* **12**: 201–12.
- Birkeland, C. (1987). Nutrient availability as a major determinant of differences among coastal hard substratum communities in different regions of the tropics in Birkeland, C. (ED) *Comparison between Atlantic and Pacific tropical marine coastal ecosystems: community structure, ecological processes and productivity* In: *Results and scientific papers of a UNESCO/COMAR workshop. University of the South Pacific Suva, Fiji, 24–29 March 1986. UNESCO reports in Marine Science* 46 pp262.
- Blackburn, T.H. (1990). *Elemental Cycles* In, Phillips, R.C. and McRoy, C.P (Eds) *Seagrass Research Methods* (UNESCO: Paris). Chapter 29 pp167–176.
- Blackburn, T.H. and Henriksen, K. (1983). Nitrogen cycling in different types of sediments from Danish water, *Limnology and Oceanography* **28** (3): 477–493.
- Blake, S. (1996). The distribution of sediments and nutrients throughout the Whitsunday Islands inner-shelf region, Great Barrier Reef In: Larcombe. P., Woolfe, K.J. and Purdon, R.G. (1996). (editors) *Great Barrier Reef: Terrigenous Sediment Flux and Human Impacts—Second Edition* November 1996 CRC Reef Research Centre Current Research Townsville, Australia. pp24–32.

- Blake, S.G. and Chivas, A.R. (1994). The response of fringing reefs along a gradient of riverine discharge, an examination of historic and contemporary processes. Annual Report, Research School of Earth Sciences (Australia National University) and C.R.C.
- Blakemore, L.C., Serale P.L. and Daly B.R. (1987). Methods of chemical analysis of soils. New Zealand Soil Bureau, Scientific Report 80.
- Boon, P.I. (1986). Nitrogen pools in seagrass beds of *Cymodocea serrulata* and *Zostera capricorni* of Moreton Bay, Australia. *Aquatic Botany* **25**: 1–19.
- Bostrum, A., Andersen, J.M., Fleisher, S. and Jansson, M. (1988). Exchange of phosphorus across the sediment water interface *Hydrobiologia* **170**: 229–244.
- Brady, D. J. (1996). The watershed protection approach. *Water Science and Technology* **33 (4–5)**: 17–21.
- Brandon, D.E. (1973). Geomorphology of eastern Queensland in relation to the Great Barrier Reef In Jones, O. and Edean, R. (Eds) *Biology and Geology of Coral Reefs*, (Academic Press: New York) pp188–232.
- Bray, R.M. and Kurtz, L.T. (1945). Determination of total organic and available forms of phosphorus in soils. *Soil Science* **59**: 39–45.
- Bridges, K. W., Phillips, R. C. and Young, P. C. (1982). Patterns of some seagrass distribution in the Torres Strait, Queensland. *Australian Journal Marine and Freshwater Research* **33**: 273–283.
- Brix, H. and Lyngby, J. E. (1985). Uptake and translocation of phosphorus in eelgrass (*Zostera marina*). *Marine Biology* **90**: 11–116.
- Brodie J. (1992). Enhancement of larval and juvenile survival and recruitment in *Acanthaster planci* from the effects of terrestrial runoff: a review. *Australian Journal of Marine and Freshwater Research* **43**: 539–554
- Brodie, J. (1992). Terrestrial Runoff and the potential for eutrophication in the Great Barrier Reef Region In: G.E. Rayment and W.A. Poplawski (Eds.) *Training notes on sampling for water quality monitoring*, pp101–104. (Department of Primary Industries, Brisbane, Queensland, Australia).
- Brodie, J. (1995a). *Nutrients and the Great Barrier Reef Report for the Australian State of the Environment Report* (Dept. Environment, Sport and Territories: Canberra).
- Brodie, J. (1995b). Management of sewage discharges in the Great Barrier Reef Marine Park, In: Bellwood, D., Choat, H. & Saxena, N. (eds) *Recent Advances in Marine Science & Technology '94*. Pacon International and James Cook University, Townsville pp457–465.
- Brodie, J. (1996). River Flood plumes in the Great Barrier Reef Lagoon In: Larcombe. P., Woolfe, K.J. and Purdon, R.G. (Eds.) *Great Barrier Reef: Terrigenous Sediment Flux and Human Impacts—Second Edition November 1996* CRC Reef Research Centre Current Research Townsville; Australia pp33–40.

- Brodie, J., Steven, A. and McGill, R. (1995). Spatial and temporal trends in chlorophyll in waters of the Great Barrier Reef Marine Park In: Bellwood, D (Ed.) The sixth Pacific Congress on Marine Science and Technology 4–8 July 1994 PACON '94 James Cook University.
- Brodie, J. (2002). GBRWHA water quality monitoring program. ACTFR, James Cook University, 02/01, Townsville, Qld Australia. 62 pp.
- Brouns J.J.W.M. (1987). Growth patterns of some Indo-West-Pacific seagrasses. *Aquatic Botany* **28**: 39–61.
- Bulthuis D. (1987). Effects of temperature on photosynthesis and growth of seagrasses. *Aquatic Botany* **22**:41–43
- Bulthuis, D. and Woelkerling, W.M. (1981). Effects of *in situ* nitrogen and phosphorus enrichment of the sediments on the seagrass *Heterozostera tasmanica* (Martens ex Aschers.) den Hartog in Western Port Victoria, Australia. *Journal of Experimental marine Biology and Ecology* **53**: 93–207.
- Bulthuis, D.A., Brand G.A., Mobley M.C. (1984). Suspended sediments and nutrients in water ebbing from seagrass-covered and denuded tidal mudflats in a southern Australian embayment. *Aquatic Botany* **20**: 257–266.
- Burrell, D.C. and Schubell, J.R. (1977). Seagrass ecosystem Oceanography. In, McRoy, C.P. and Helfferich, C. (Eds) (1977). Seagrasses ecosystems: a scientific perspective. (Dekker: New York) pp195–232.
- Caffrey, J.M. and Kemp, W.M. (1990). Nitrogen cycling in sediments with estuarine populations of *Potamogeton perfoliates* and *Zostera marina*. *Marine Ecological Progress Series* **66**: 147–160.
- Cambridge, M.L. and McComb, A.J. (1984). The loss of seagrass from Cockburn Sound, Western Australia I: The time course and magnitude of seagrass decline in relation to industrial development. *Aquatic Botany* **20**: 229–243.
- Carruthers, T.J.B., Dennison, W.C., Longstaff, B.J., Waycott, M., Abal, E.G., McKenzie, L.J. and Lee Long, W.J. (2002). Seagrass habitats of north east Australia: Models of key processes and controls. *Bulletin of Marine Science* **71**: 1153–1169.
- Carter, R.M., Johnson, D.P. and Hooper, K.G. (1993). Episodic post-glacial sea-level rise and the sedimentary evolution of a tropical embayment (Cleveland Bay, Great Barrier Reef shelf, Australia). *Australian Journal of Earth Science* **40**: 229–255.
- Chaphekar S.B. (1991). An overview on bioindicators. *Journal of Environmental Biology* **12**: 163-168.
- Chittleborough, P.J. (1983). The nutrient loss in surface waters as influenced by land use patterns In: J.W. Holmes (ED) the effects of changes in land use upon water resources pp42–53.

- Christiansen, C., Christoffersen, H., Dalsgaard, J. and Norberg, R. (1981). Coastal and nearshore changes correlated with die-back in eelgrass (*Zostera marina* L.). *Sedimentary Geology* **28**: 163–173.
- Clark, J.R. (1992). Integrated Management of Coastal Zones. FAO Fisheries Technical Paper no 27. Rome FAO 167pp.
- Coles, R.G. and Lee Long, W.J. (1985). Juvenile prawn biology and the distribution of seagrass prawn nursery ground in the southeastern Gulf of Carpentaria In: Rothlisberg, P., Hill, B. and Staples, D. (Eds) Second Aust. Nat. Prawn Sem., NPS2, Cleveland, Australia pp55–60.
- Coles, R.G., Lee Long, W.J., Squire, B.A., Squire, L.C. and Bibby, J.M. (1987). Distribution of seagrass beds and associated juvenile commercial penaeid prawns in north-eastern Queensland waters. *Australian Journal of Marine and Freshwater Research* **38**: 103–119.
- Coles, R.G., Poiner, I.R., and Kirkman, H. (1989). Regional studies—seagrasses of north-eastern Australia. In: Larkum, A., McComb, A, and Shepherd, S. (Eds). Biology of seagrasses (Elsevier: Amsterdam) pp261–278.
- Connell, E.L. and Walker, D.I. (2001). Nutrient cycling associated with the seagrass *Halophila ovalis* in the Swan Canning Estuary based on seasonal variations in biomass and tissue nutrients. *Hydrological Processes* **15**: 2401–2409.
- Cosser, P. 1988 Phosphorus loading to the northern Great Barrier Reef from mainland run-off In: Baldwin C.L. (Ed.) (1988). Nutrients in Great Barrier Reef Region Workshop Series No. 10. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp39–43.
- Costanza, R., d'Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, D., O'Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P. and van der Belt, M. (1997). The value of the world's ecosystem services and natural capital. *Nature* **387**: 253–260.
- de Kanel, J. and Morse, J. (1978). The chemistry of orthophosphate uptake from seawater on to calcite and aragonite, *Geochimica et Cosmochimica Acta* **42(9)**: 1335–1340.
- de Laune, R. D., Hambrick, III, G. A and Patrick, Jr, W. H. (1980). Degradation of hydrocarbons in oxidized and reduced sediments, *Marine Pollution Bulletin* **1(4)**: 103–106.
- den Hartog, C. (1970). The sea-grasses of the world (North Holland Publishing Company: Amsterdam) pp275.
- Dennison, W.C. and Alberte, R.S. (1985). Role of daily light period in the depth distribution of *Zostera marina* (eelgrass). *Marine Ecology Progress Series* **25**: 51–62.

- Dennison, W. C. and Alberte, R. S. (1986). Photoadaptation and growth of *Zostera marina* L. (eelgrass) transplants along a depth gradient. *Journal of Experimental Marine Biology and Ecology* **98(3)**: 265–282.
- Dennison, W.C., Aller, R.C. and Alberte, R.S. (1987). Sediment ammonium availability and eelgrass (*Zostera marina*) growth *Marine Biology* **94**: 469–477.
- Dennison, W.C., Orth, R.J., Moore, K.A., Stevenson, J.C., Carter, V., Koller, S., Bergstrom, P.W. and Batuik, R.A. (1993). Assessing water quality with submersed aquatic vegetation: Habitat requirements as barometers of Chesapeake Bay Health. *Bioscience* **43(2)**: 86–94.
- Devlin, M. (1999). Seagrasses and nutrients: What are the potential effects of increasing nutrient levels? *Reef Research* **9(1)**: 1–2.
- Duarte, C.M. and Sand-Jensen K. (1990). Seagrass colonization: patch formation and patch growth in *Cymodocea nodosa*. *Marine Ecology Progress Series* **65**: 193–200.
- Duarte, C.M. (1990). Seagrass nutrient content. *Marine Ecological Progress Series* **67**: 201–207.
- Duarte, C.M. (1989). Temporal biomass variability and production biomass relationships of seagrass communities. *Marine Ecology Progress Series* **51**: 269–276.
- Duarte, C.M. (1999). Seagrass ecology at the turn of the millennium: challenges for the new century. *Aquatic Botany* **65**: 7–20.
- Duarte, C.M. and Chiscano, C. L. (1999). Seagrass biomass and production: a reassessment. *Aquatic Botany* **65**: 159–174.
- Dzombak, D.A. and Morel, F.M.M. (1990). Surface complexation modelling hydrous ferric oxide. John Wiley and Sons, New York.
- Edzwald, J.K., Toensing, D.C. and Chi-Yew Leung, M. (1976). Phosphate adsorption reactions with clay minerals, *Environmental Science and Technology* **10(5)**: 485–491.
- Erfteimeijer P.L.A. (1990). Factors limiting growth and production of tropical seagrasses: Nutrient dynamics in Indonesian seagrass beds (Buginesia IV) Tentative Final Report to the Indonesian Institute of Sciences (WOTRO: W84-293).
- Erfteimeijer P.L.A., Herman P.M.J. (1994). Seasonal changes in environmental variables, biomass, production and nutrient contents in two contrasting tropical intertidal seagrass beds in South Sulawesi, Indonesia. *Oecologia* **99**: 45–59.
- Erfteimeijer PLA and Koch E.W. (2001). Sediment geology methods for seagrass habitat. In *Global Seagrass Research Methods*. pp345–367.

- Erftemeijer, P.L.A. (1994). Differences in nutrient concentrations and resources between seagrass communities on carbonate and terrigenous sediments in South Sulawesi, *Indonesia Bulletin of Marine Science* **54(2)**: 403–419.
- Erftemeijer, P.L.A. and Middelburg J.J. 1993. Sediment interactions in tropical seagrass beds: a comparison between a terrigenous and a carbonate sedimentary environment in South Sulawesi (Indonesia). *Marine Ecological Progress Series* **102**: 187–198.
- Erftemeijer, P.L.A., Stapel, J., Smeckens, M.J.E. and Drossaert, W.M.E. (1994). The limited effect of in situ phosphorus and nitrogen additions to seagrass beds on carbonate and terrigenous sediments in South Sulawesi, Indonesia *Journal of Experimental Marine Biology and Ecology* **182**: 123–140.
- Eyre B. and McConchie D. (1993). Implications of sedimentological studies for environmental pollution assessment and management-examples from fluvial systems in north Queensland and Western-Australia. *Sedimentary Geology* **85(1–4)**: 235–252.
- Eyre, B. (1993). Nutrients in the sediments of tropical north-eastern Australian estuary, catchment and nearshore coastal zone. *Australian Journal of Marine and Freshwater Research* **44**: 845–866.
- Eyre, B. (1994). Nutrient biogeochemistry in the tropical Moresby River estuary system North Queensland Australia. *Estuarine, Coastal and Shelf Science* **39**: 15–31.
- Folk, R.L. (1974). *Petrology of Sedimentary Rocks* (Hemphill Publishing Co: Texas).
- Fonseca M.S. (1985). The use of a flume to measure stability of deep-water seagrass (*Halophila decipiens*) meadows. *Estuaries* **8**: A75.
- Fonseca, M.S. (1989). Sediment stabilization by *Halophila decipiens* in comparison to other seagrasses. *Estuarine, Coastal and Shelf Science* **29**: 501–507.
- Fonseca, M.S. and Fisher, J.S. (1986). A comparison of canopy friction and sediment movement between four species of seagrass with references to ecology and restoration. *Marine Ecological Progress Series* **29**: 15–22.
- Fonseca, M.S. and Kenworthy, W.J. (1987). Effects of current photosynthesis and distribution of seagrasses. *Aquatic Botany* **27**: 59–78.
- Fonseca, M.S., Fisher, J.S. and Zieman, J.C. (1982). Influence of the seagrass (*Zostera marina*) on current flow. *Estuarine, Coastal and Shelf Science* **15**: 351–364.
- Fourqurean, J., Zieman, J. and Powell, G. (1992). Relationships between porewater nutrients and seagrasses in a subtropical carbonate environment. *Marine Biology* **114**: 57–65.
- Friedman, G.M. (1978). *Principles of sedimentology* (John Wiley & Sons: Canada).

- Froelich, P.N. (1985). Kinetic control of dissolved phosphate in natural rivers and estuaries: A primer on the phosphate buffer mechanism. *Limnology and Oceanography* **33(4)**: 649–668.
- Furnas, M.J., Mitchell, A.W., Liston, P., Skuza, M., Drew, E. and Wellington, J. (1995). Nitrogen and phosphorus budgets for the central Great Barrier Reef. Great Barrier Reef Marine Park Authority Research Report No. 36, Great Barrier Reef Marine Park Authority, Townsville.
- Furnas, M. (1988). Water column nutrient processes in Great Barrier Reef waters In: Baldwin C.L. (Ed) (1988) Nutrients in Great Barrier Reef Region Workshop Series No. 10. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp45–54.
- Furnas, M. (2003). Catchments and corals: Terrestrial runoff to the Great Barrier Reef. Australian Institute of Marine Science: Townsville 334pp.
- Furnas, M. and Mitchell, A. (1995). River discharge to and water column concentrations of sediments and nutrients in the GBR. Abstract from CRC/GBRMPA Researcher Days September 1995.
- Furnas, M. and Mitchell, A. (1997). Biological oceanography of the Great Barrier Reef In: Turia, N. and Dalliston C. (Compilers). Proceedings Volume 1. The Great Barrier Science Use and Management National Conference. Nov. 25–29 1996. Townsville pp75–87.
- Gabric, A. and Bell, P. (1993). Review of the effects of non-point nutrient loading on coastal ecosystems. *Australian Journal of Marine Freshwater Research* **44**: 261–283.
- Gacia, E. and Duarte, C.M. (2001). Sediment retention by a Mediterranean *Posidonia oceanica* meadow: The balance between deposition and resuspension. *Estuarine, Coastal and Shelf Science* **52(4)**: 505–514.
- Gacia, E., Granata, T.C. and Duarte, C. (1999). An approach to measurement of particle flux and sediment retention within seagrass (*Posidonia oceanica*) meadows. *Aquatic Botany* **65**: 255–268.
- Gagan M.K., Chivas A.R. and Herczeg A.L. (1990). Shelf wide erosion, deposition, and suspended sediment transport during cyclone Winifred, central Great Barrier Reef, Australia. *Journal of Sedimentary Petrology* **60**: 456–470.
- Gale, S.J. and Hoare, P.G. (1991). Quaternary sediments. Petrographic methods for the study of unlithified rocks. Belhaven Press Halsted Press, Toronto. 323pp.
- Gambi, M.C., Nowell, A.R.M. and Jumars, P.A. (1990). Flume observations on flow dynamics in *Zostera marina* (eelgrass) beds. *Marine Ecology Progress Series*, **61**: 159-169.
- Garrels, R.M. and Christ, C.L. (1965). Solutions, minerals and equilibria. (Harper and Row: New York John Weatherhill Inc: Tokyo).

- Gaudette, H.E. and Lyons, W.B. (1980). Phosphate geochemistry in nearshore carbonate sediments: A suggestion of apatite formation. In, Y.K. Bendor (Ed.) Marine phosphorites. SEPM (Society for Sedimentary Geology) Special Publication 29, pp215–225.
- Gerloff, G.C. and Krombholz, P.H. (1966). Tissue analysis as a measure of nutrient availability for the growth of angiosperm. *Limnology and Oceanography* **11**: 529–537.
- Gordon, D.M., Grey, K.A., Chase, S.C., and Simpson, C.J., (1994). Changes to the structure and productivity of *Posidonia sinuosa* meadow during and after imposed shading. *Aquatic Botany* **47**: 265–275.
- Grundamanis, V. and Murray, J.W. (1977). Nitrification and denitrification in marine sediments from Puget Sound. *Limnology and Oceanography* **22(5)**: 804–813.
- Hamilton, L.J. (1994). Turbidity in the Northern Great Barrier Reef Lagoon in the Wet Season, March 1989. *Australian Journal of Marine and Freshwater Research* **45**: 585–615.
- Harlin, M.M. and Thorne-Miller, B. (1981). Nutrient enrichment of seagrass beds in a Rhode Island coastal lagoon. *Marine Biology* **65**: 221–229.
- Harlin, M.M., Thorne-Miller, B. and Boothroyd, J. (1982). Seagrass-sediment dynamics of a flood-tidal delta in Rhode Island (USA). *Aquatic Botany* **14**: 127–138.
- Hatcher, B.G., Johannes, R.E. and Robertson, A.I. (1989). Review of Research relevant to the conservation of shallow tropical Marine ecosystems. *Oceanography and Marine Biology Annual Review* **27**: 337–414.
- Hausler, G. (1991). Hydrology of North Queensland Coastal Streams and their Groundwaters in Yellowlees, D. (Ed). (1991). Land Use Patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November, 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp90–108.
- Heinsohn, G. and Birch, W. (1972). Food and feeding habitats dugong, *Dugong dugon* (Erxleben), in northern Queensland, Australia. *Mammalia* **36**: 414–422.
- Hemminga, M.A. and Duarte, C.M. (2000). Seagrass ecology. Cambridge University Press, Cambridge. 298pp.
- Hemminga, M.A., Harrison, P.G. and Van Lent, F.A. (1991). The balance of nutrient losses and gains in seagrass meadows. *Marine Ecology Progress Series* **71**: 85–96.
- Hemminga, M.A., Gwada, P., Slim, F.J., Dekoeyer, P. and Kazungu, J. (1995). Leaf production and nutrient contents of the seagrass *Thalassodendron ciliatum* in the proximity of a mangrove forest (Gazi Bay, Kenya). *Aquatic Botany* **50**: 159–170.

- Hillman, K., McComb, A.J., and Walker, D.I. (1995). The distribution, biomass and primary productivity of the seagrass *Halophila ovalis* in the Swan/Canning Estuary, Western Australia. *Aquatic Botany* **51**: 1–54.
- Hillman, K., Walker, D.I., Larkum, A.W.D. and McComb, A.J. (1989). Productivity and nutrient limitation In: Larkum, A.W.D., McComb, A.J. and Shepherd, S.A. (eds) *Biology of Seagrasses: A treatise on the biology of seagrasses with special reference to the Australian region* (Elsevier: Amsterdam) pp635–685.
- Holford, I.C.R. and Moody, P.W. (1991). Comments on Intensity-Quantity aspects of soil phosphorus. *Australian Journal of Soil Research*. **29**: 11–14.
- Hopley, D., Yellowlees, D. and Cuff, C. (1991). Reef Pollution in the 1980s. *Search* **22(4)**: 121.
- Howarth, R. W. (1988). Nutrient limitation of net primary production in marine ecosystems. *Annual Review of Ecology* **19**: 89–110.
- Hunter, H.M. (1992a). Agricultural Contaminants in Aquatic Environments—A review (Department of Primary Industries: Brisbane) QB92002.
- Hunter, H.M. (1992b). Preliminary assessment of dissolved inorganic nutrients, suspended solids in the Johnstone River Catchment, April 1991–March 1992, DPI: Agricultural Chemistry Unpublished report ACU92.06.
- Hunter, H.M. and Rayment, G.E. (1991). Agricultural contaminants in Aquatic environments—An Overview In: Yellowlees, D. (Ed). (1991) *Land Use Patterns and nutrient loading of the Great Barrier Reef Region*. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November, 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp27–38.
- Iizumi, H. and Hattori, A. (1982). Growth and organic production of eelgrass (*Zostera marina* L.) in temperate waters of the Pacific coast of Japan: The kinetics of nitrogen uptake. *Aquatic Botany* **12**: 245–256.
- Inglis, G.J. (2000). Variation in the recruitment behaviour of seagrass seeds: implications for population dynamics and resource management. *Pacific Conservation Biology* **5**: 251–259.
- Jenkins, M.C. and Kemp, W.M. (1984). The coupling of nitrification and denitrification in two estuarine sediments. *Limnology and Oceanography* **29(3)**: 609–619.
- Jenkins, M.L. (1995). ‘The behaviour of slow-release Osmocote® fertilizer (nitrogen and phosphorus) through intertidal marine sediments associated with seagrass beds.’ PhD Thesis. (James Cook University: Australia).
- Johnson, D.P. and Carter, R.M. (1988). Sedimentary evidence on the seaward limits of suspended materials from rivers In: Baldwin C.L. (Ed.) (1988) *Nutrients in Great Barrier Reef Region Workshop Series No. 10*. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp22–26.

- Kamp-Nielsen, L. and Anderson, J.M. (1975). A review of the literature on sediment: water exchange of nitrogen compounds In: Nitrogen as a water pollutant. Proceedings of the conference held in Copenhagen, August 1975, Peragamon Press.
- Kaspar, H. F. (1983). Denitrification, nitrate reduction to ammonium, and inorganic nitrogen pools in intertidal sediments. *Marine Biology* **74**: 133–139.
- Kemp, W., Boynton, W., Twilley, R., Stevenson, J. and Ward, L. (1984). Influences of submersed vascular plants in Upper Chesapeake Bay. In ‘The estuary as a filter’. (Ed. K VS) pp367–394. (Academic Press: New York).
- Kenworthy, W.J. and Fonseca, M.S. (1992). The use of fertiliser to enhance growth of transplanted seagrasses *Zostera marina* L. and *Halodule wrightii* Aschers. *Journal of Experimental Marine Biology and Ecology* **163**: 141–161.
- Kenworthy, W.J., Zieman, J.C. and Thayer, G.W. (1982). Evidence for the influence of seagrasses on the benthic nitrogen cycle in a coastal plain estuary near Beaufort, North Carolina (USA) *Oecologia (Berl)* **54**: 152–158.
- Kinsey, D. (1988a). Responses of coral Reef systems to elevated nutrient levels In: Baldwin C.L. (ED) (1988) Nutrients in Great Barrier Reef Region Workshop Series No. 10. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp55–65.
- Kinsey, D. (1988b). Coral reef systems response to some natural and anthropogenic stresses. *Galaxea* **7**: 113–128.
- Kirkman, H., Cook, I.H. and Reid, D.D. (1982). Biomass and growth of *Zostera capricorni* Aschers. in Port Hacking, N.S.W., Australia. *Aquatic Botany* **12**: 57–67.
- Koch, E.M. (2001). Beyond light: Physical, geological, and geochemical parameters as possible submersed aquatic vegetation habitat requirements. *Estuaries* **24(1)**: 1–17.
- Koch, E.M. and Gust, G. (1999). Water flow in tide- and wave-dominated beds of the seagrass *Thalassia testudinum*. *Marine Ecology Progress Series* **184**: 63–72.
- Koike, I. and Hattori, A. (1978). Denitrification and ammonia formation in anaerobic coastal sediments. *Applied Environmental Microbiology* **35(2)**: 278–282.
- Krom, M.D. and Berner, R.A. (1980). Absorption of phosphate in anoxic marine sediments *Limnology and Oceanography* **25(5)**: 797–806.
- Lanyon, J. (1991). ‘The nutritional ecology of the dugong (*Dugong dugon*) in tropical north Queensland.’ PhD Thesis. (Monash University: Australia).
- Lanyon, J. and Marsh, H. (1995). Temporal changes in the abundance of some tropical intertidal seagrasses in northern Queensland. *Aquatic Botany* **49**: 217–237.

- Lanyon, J., Limpus, C. and Marsh, H. (1989). Dugongs and turtles; grazers in the seagrass system In: Larkum, A., McComb, A. and Shepherd, S.A. (EDS) (1989) *Biology of Seagrasses* (Elsevier: Amsterdam) pp610–634.
- Larcombe, P. and Woolfe, K. (1996). The influence of sea level and sediment transport on modern and Holocene growth of the Great Barrier Reef, Australia In: Larcombe, P., Woolfe, K.J. and Purdon, R.G. (1996). (editors) *Great Barrier Reef: Terrigenous Sediment Flux and Human Impacts—Second Edition* November 1996 CRC Reef Research Centre Current Research Townsville; Australia pp91–96.
- Larcombe, P., Woolfe, K. and Purdon, R. (1996). *Great Barrier Reef: Terrigenous sediment flux and human impacts*. CRC Reef Research Centre, Townsville 174pp.
- Larkum, A.W.D. and West, R.J. (1990). Historical changes in the seagrass communities in Botany Bay, Australia. *Aquatic Botany* **37**: 55–70.
- Larkum, A.W.D., McComb, A.J. and Shepherd, S.A. (eds) (1989). *Biology of Seagrasses: A treatise on the biology of seagrasses with special reference to the Australian region* (Elsevier: Amsterdam) 841pp.
- Larkum, A.W.D., Collett, L.L. and Williams, R.J. (1984). The standing stock, growth and shoot production of *Zostera capricorni* Aschers in Botany Bay, New South Wales, Australia. *Aquatic Botany* **19**: 307–327.
- Lee Long, W.J. and Coles, R.G. (1997). Impacts on and responses of seagrasses in the The Great Barrier Reef—Issues for Management In: Turia, N. and Dalliston C. (Compilers). *Proceedings Volume 1. The Great Barrier Science Use and Management National Conference*. Nov. 25–29 1996. Townsville pp101–106.
- Lee Long, W.J., Mellors, J.E. and Coles, R.G. (1993). Seagrasses between Cape York and Hervey Bay, Queensland, Australia. *Australian Journal of Marine and Freshwater Research* **44(1)**: 19–33.
- Lee Long, W.J., Coles, R.G., and McKenzie, L.J. (2000). Issues for seagrass conservation management in Queensland. *Pacific Conservation Biology* **5**: 321–328.
- Les, D.H., Cleland, M.A. and Waycott, M. (1997). Phylogenetic studies in Alismatidae, II—evolution of marine angiosperms (seagrasses) and hydrophily. *Systematic Botany* **22**: 443–463.
- Linden, O. (1990). Human impact on tropical coastal zones. *Nature and Resources* **26(4)**: 3–11.
- Longstaff, B.J. and Dennison, W.C. (1999). Seagrass survival during pulsed turbidity events: the effects of light deprivation on the seagrasses *Halodule pinifolia* and *Halophila ovalis*. *Aquatic Botany* **65**: 105–121.
- Lovett Doust, L., Biernacki, M. and Lovett Doust, J. (1994). American wildcelery, *Vallisneria americana* as a biomonitor of organic contaminants in aquatic ecosystems. *Journal of Great Lakes Research* **20(2)**: 333–354.

- MacKinnon, I. and Cuff, C. (1992). Properties and analysis of clay minerals. In Clay minerals and Exploration Geochemistry, Economic Geology Research Unit Contribution 44, Two-one day Workshops, 18–19 November.
- Marba, N. and Duarte, C.M. (1995). Coupling of seagrass (*Cymodocea nodosa*) patch dynamics to subaqueous dune migration. *Journal of Ecology* **83**: 381–389.
- Marba, N. and Duarte, C.M. (1998). Rhizome elongation and seagrass clonal growth. *Marine Ecology Progress Series* **174**: 269–280.
- Marsh, H., Channells, P.W., Heinsohn, G.E. and Morrissey, J. (1982). Analysis of stomach contents of dugongs from Queensland. *Australian Wildlife Research* **9**: 55–67.
- Maxwell, W.G.H. (1968). Atlas of the Great Barrier Reef. Elsevier Publ. Co., London.
- McComb, A.J., Atkins, R.P., Birch, P.B., Gordon, D.M. and Lukateclich, R.J. (1981). Eutrophication in the Peel-Harvey estuarine system, Western Australia In Nielsen, B.J. and Cronin, L.E. (Eds) (Humana Press: Clifton, NJ) pp323–342.
- McGlathery, K. J., Marino, R., and Howarth, R. (1994). Variable rates of phosphate uptake by shallow marine carbonate sediment: Mechanisms and ecological significance. *Biogeochemistry* **25**: 127–146.
- McKenzie, L.J. (1994). Seasonal changes in biomass and shoot characteristics of a *Zostera capricornii* Ashers. dominant meadow in Cairns harbour, northern Queensland. *Australian Journal of Marine and Freshwater Research* **45**: 1337–1352.
- McMillan, C. and Phillips, R.C. (1979). Differentiation in habitat response among populations of New World seagrasses. *Aquatic Botany* **7**: 185–196.
- McRoy, C.P. (1970). Standing stocks and other features of eelgrass (*Zostera marina*) populations on the coast of Alaska. *Journal of Fisheries Research B. Canada* **27(10)**: 1811–1821.
- McRoy, C.P. and Helfferich, C. (Eds) (1977). Seagrasses ecosystems: a scientific perspective. (Dekker: New York).
- McRoy, C.P. and McMillan, C. (1977). Production ecology an physiology of seagrasses pp. 53–87 In C.P. McRoy and C. Helfferich. (eds.) Seagrass ecosystems: A scientific perspective. Marine Science Series Vol. 4. Marcel Dekker, Inc., New York. 314pp.
- McRoy, C.P., Barsdate, R.J. and Nebert, M. (1972). Phosphorus cycling in an eelgrass ecosystem. *Limnology and Oceanography* **17(1)**: 58–67.
- Mellors, J., Marsh, H. and Coles, R. (1993). Intra-annual changes in seagrass standing crop, Green Island, northern Queensland. *Australian Journal of Marine and Freshwater Research* **44(1)**: 33–42.

- Mengel, K. and Kirkby, E.A. (1987). Principles of Plant Nutrition (International Potash Institute: Switzerland) 687pp.
- Mitchell, A. (1992). Towards an understanding of the pattern of nutrient delivery from tropical rivers to the coastal zone Abstract GBRMPA Researcher Days 1992.
- Mitchell, A. and Furnas, M. (1993). River inputs of nutrients to the central GBR. GBRMPA Researcher Days abstract 1993.
- Mitchell, A., Rasmussen, C., Blake, S., Congdon, R., Reghenzani, J., Saffinga, P. and Sturmey, H. (1991). Nutrient concentrations and fluxes in North Queensland Coastal Rivers and Streams. In Yellowlees, D. (Ed). (1991) Land Use Patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp108–161.
- Mitchell, A.W. and Furnas, M.J. (1996). Differences in suspended sediment flux to the GBR shelf between wet and dry catchments in north Queensland In: Larcombe, P., Woolfe, K.J. and Purdon, R.G. (1996) (editors) Great Barrier Reef: Terrigenous Sediment Flux and Human Impacts—Second Edition November 1996 CRC Reef Research Centre Current Research Townsville; Australia. pp108–115.
- Mitchell, A.W. and Furnas, M.J. (1997). Terrestrial inputs of nutrients and suspended sediments to the GBR lagoon In: Turia, N and Dalliston C. (Compilers). Proceedings Volume 1. The Great Barrier Science Use and Management National Conference. Nov. 25–29 1996. Townsville pp59–71.
- Moody, P.W. (1985). Identification of soils and interpretation of soil data. (Australian Society of Soil Science Inc. Queensland Branch: Brisbane, Australia) pp103–115.
- Moody, P.W., Dickson, T., Dwyer, J.C. and Compton, B.L. (1990). Predicting yield responsiveness and phosphorus fertilizer requirements of soybeans from soil tests. *Australian Journal of Soil Research* **28**: 399–406.
- Moriarty, D.J.W. and Boon, P.I. (1989). Interactions of Seagrasses with sediment and Water In: Larkum, A.W.D., McComb, A.J. and Shepherd, S.A. (eds) Biology of Seagrasses: A treatise on the biology of seagrasses with special reference to the Australian region (Elsevier: Amsterdam). pp500–535.
- Morrisette, N. (1992). 'Identifying areas of seagrasses within the Great Barrier Reef region threatened by anthropogenic activities.' MSc Qualifying Thesis (James Cook University: Australia).
- Moss, A.J., Rayment, G.E., Reilly, N. and Best, E.K. (1992). A preliminary assessment of sediment and nutrient exports Assessment of sediment and nutrient exports for Queensland coastal catchments (Queensland Government: Brisbane) p33.
- Moutin, T., Picot, B., Ximens, M.C. and Bontoux, J. (1993). Seasonal variations of P compounds and their concentrations in two coastal lagoons (Herault, France). *Hydrobiologia* **252**: 45–59.

- Murray, L., Dennison, W.C. and Kemp, W.M. (1992). Nitrogen versus phosphorus limitation for growth of an estuarine population of eelgrass (*Zostera marina* L.) *Aquatic Botany* **44**: 83–100.
- O’Neil, J.M. and Capone, D.G. (1989). Nitrogenase activity in tropical carbonate marine sediments, *Marine Ecological Progress Series* **56**: 145–156.
- Odum, E.P. (1971). *Fundamentals of Ecology*, 3rd Edition (W.B. Saunders Co: London) 547pp.
- Orth, R.J. (1977). Effect of nutrient enrichment on growth of the eelgrass *Zostera marina* in the Chesapeake Bay, Virginia, USA. *Marine Biology* **44**: 187–194.
- Pailles, C. and Moody, P.W. (1995). Effect of experimental conditions on phosphorus extracted from estuarine and marine sediments, *Australian Journal of Marine and Freshwater Research* **46**: 435–440.
- Pailles, C., McConchie, S., Arakel, A. and Saenger, P. (1993). The distribution of phosphate in sediments of the Johnstone Rivers Catchment—estuary system, North Queensland Australia. *Sedimentary Geology* **85**: 253–269.
- Parfitt, R.L., Atkinson, R.J. and Smart, R.C. (1975). The mechanism of phosphate fixation by iron oxides. *Soil Science Society of America Proceedings* **39**: 837–841.
- Patriquin, D.G. (1972). The origin of nitrogen and phosphorus for growth of the marine angiosperm *Thalassia testudinum*. *Marine Biology* **15**: 35–46.
- Pedersen, M.F. and Borum, J. (1993). An annual nitrogen budget for a seagrass *Zostera marina* population. *Marine Ecology Progress Series* **80**: 65–73.
- Perez, M., Duarte, C.M., Romero, J., Sand-Jensen, K., and Alcoverro, T. (1994). Growth plasticity in *Cymodocea nodosa* stands: the importance of nutrient supply *Aquatic Botany* **47**: 249–264.
- Perez, M., Romero, J., Duarte, C.M. and Sand-Jensen, K. (1991). Phosphorus limitation of *Cymodocea nodosa* growth *Marine Biology* **109**: 129–133.
- Perez-Loréns, J.L., de Visscher, P., Nienhuis, P.H. and Niell, F.X. (1993). Light-dependent uptake, translocation and foliar release of phosphorus by the intertidal seagrass *Zostera noltii* Hornem. *Journal of Experimental Marine Biology and Ecology* **166**: 165–174.
- Phillips, R.C. and Meñez, E.G. (1988). Seagrasses. Smithsonian Contributions to the Marine Sciences No. 34 (Library of Congress Cataloguing in Publication Data) 104pp.
- Phillips, R.C., McMillan, C., and Bridges, K.W. (1983). Phenology of eelgrass (*Zostera marina*) along latitudinal gradients in North America. *Aquatic Botany* **15**: 145–156.

- Poiner, I.R. and Peterkin, C. (1995). Seagrasses. In 'The state of the marine environment report for Australia. Technical Annex: 1'. (Eds LP Zann and P Kailola) pp107–117. (Great Barrier Reef Marine Park Authority: Townsville, Australia).
- Poiner, I.R., Walker, D.I. and Coles, R.G. (1989). Regional studies—Seagrasses of tropical Australia. In 'Biology of seagrasses: A treatise on the biology of seagrasses with special reference to the Australian region'. (Eds AWD Larkum, AJ McComb and SA Shepherd) pp279–303. (Elsevier: Amsterdam).
- Pollard, P. and Greenway, M. (1993). Photosynthetic characteristics of seagrasses (*Cymodocea serrulata*, *Thalassia hemprichii* and *Zostera capricorni*) in a low light environment, with a comparison of leaf marking and lacunal-gas measurements of productivity. *Australian Journal of Marine and Freshwater Research* **44(1)**: 127–140.
- Portielje, R., and Lijklema, L. (1993). Sorption of phosphate by sediments as a result of enhanced external loading, *Hydrobiologia* **253**: 249–261.
- Powell, G.V.N., Kenworthy, W.J. and Fourqurean, J.W. (1989). Experimental evidence for nutrient limitation of seagrass growth in a tropical estuary with restricted circulation. *Bulletin of Marine Science* **44(1)**: 324–340.
- Preen, A.R. (1995). Impacts of dugong foraging on seagrass habitats: observational and experimental evidence for cultivation grazing. *Marine Ecology Progress Series* **124**: 201-213.
- Preen, A.R., Lee Long, W.J. and Coles, R.G. (1995). Flood and cyclone related loss, and partial recovery, of more than 10000 km² of seagrass in Hervey Bay, Queensland, Australia. *Aquatic Botany* **53**: 3–17.
- Pringle, A.W. (1989). The History of Dredging in Cleveland Bay, Queensland and its Effect on Sediment Movement and on the Growth of Mangroves, Corals and Seagrass, Research Publication, Great Barrier Reef Marine Park Authority, Townsville.
- Prove, B. and Hicks, W.S. (1991). Soil and Nutrient Movements from rural lands in north Queensland. In: Yellowlees, D. (Ed). (1991) Land Use Patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp27–38.
- Pulich, W.M. Jr. (1985). Seasonal growth dynamics of *Ruppia maritima* L. s.l. and *Halodule wrightii* Aschers, in southern Texas and evaluation of sediment fertility status. *Aquatic Botany* **23**: 53–66.

- Pulsford, J.S. (1991). Historical inputs of fertiliser nutrients on to agricultural lands of coastal North Queensland In: Yellowlees, D. (Ed). (1991) Land Use Patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp39–52.
- Pulsford, J.S. (1996). Historical Nutrient Usage in Coastal Queensland River Catchments Adjacent to the Great Barrier Reef Marine Park, Research Publication No. 40, Great Barrier Reef Marine Park Authority, Townsville.
- Puotinen, M.L., Done, T.J. and Skelly, W.C. (1997). An atlas of tropical cyclones in the Great Barrier Reef Region, 1969–1997. Technical Report No. 19 Townsville; CRC Reef Research Centre, 201pp.
- Rasheed, M.A. (1999). Recovery of experimentally created gaps within a tropical *Zostera capricorni* (Aschers.) seagrass meadow, Queensland Australia. *Journal of Experimental Marine Biology and Ecology* **235**: 183–200.
- Rasmussen, C. (1988). Effects of nutrients carried by mainland Run-off on Reefs of the Cairns Area: A research plan and preliminary results In: Baldwin, C.L. (ED) (1988) Nutrients in Great Barrier Reef Region Workshop Series No. 10. Proceedings of a Workshop held in Townsville, Australia 26 and 27 November 1987. (GBRMPA: Townsville) pp66–91.
- Rasmussen, C. (1990). Anthropogenic influences on coral reefs from mainland runoff with relation to crown of thorn infestations. Progress report to the Great Barrier Reef Marine Park Authority.
- Rayment, G.E. and Higginson, F.G. (1993). Australian laboratory handbook of soil and water chemical methods (Inkata Press: Sydney).
- Rayment, G.E. and Neil, D.T. (1997). Sources of material in river discharge In: Proceedings Volume 1. The Great Barrier Science Use and Management National Conference. Turia, N. and Dalliston C. (Compilers). November 25–29 1996. Townsville pp42–58.
- Reichelt, A. (1993). ‘The characterisation and fate of suspended sediments associated with dredging and dumping activities in Cleveland Bay, Australia.’ MSc Thesis. (James Cook University: Australia).
- Richardson, C.J., Tilton, D.L., Kadlec, J.A., Chamie, J.P.M. and Wentz, W.A. (1978). Nutrient dynamics of northern wetland ecosystems. Pages 217–243 In: Freshwater Wetlands: Ecological Processes and Management Potential. (eds) R.E. Good, D.F. Whigham and R.L Simpson. Academic Press, New York, New York, USA.
- Roberts, M.H., Jr., Orth, R.J. and Moore, K.A. (1984). Growth of *Zostera marina* L. seedlings under laboratory conditions of nutrient enrichment. *Aquatic Botany* **20**: 321–328.

- Rosenfeld, J. (1979a). Interstitial water and sediment chemistry of two cores from Florida Bay. *Journal of Sedimentary Petrology* **49(3)**: 989–994.
- Rosenfeld, J. (1979b). Ammonium adsorption in nearshore anoxic sediment. *Limnology and Oceanography* **24(2)**: 356–364.
- Ryle, V.D., Mueller, H.R. and Gentein, P. (1981). Automated analysis of nutrients in tropical sea waters AIMS Data Report III (AIMS OS 81 2: Townsville).
- Sand-Jensen, K. (1975). Biomass, net production and growth dynamics in an eelgrass (*Zostera marina* L.) population in Vellerup Vig, Denmark. *Ophelia* **14**: 185–201.
- Sand-Jensen, K. and Borum, J. (1991). Interactions among phytoplankton, periphyton and macrophytes in temperate freshwaters and estuaries. *Aquatic Botany* **41**: 137–175.
- Schaffelke, B., Waterhouse, J. and Christie, C. (2001). A review of water quality issues influencing the habitat quality in Dugong Protection Areas. Research Publication No. 66, The Great Barrier Reef Marine Park Authority.
- Scoffin, T.P. (1970). The trapping and binding of subtidal carbonate sediments by Marine Vegetation in Bimini Lagoon, Bahamas. *Journal of Sedimentary Petrology* **40(1)**: 249–273.
- Scoffin, T.P. (1987). An introduction to carbonate sediments and rocks. Chapman and Hall, New York. 274pp.
- Seitzinger, S.P. (1988). Denitrification in freshwater and coastal marine ecosystems: Ecological and geochemical significance. *Limnology and Oceanography* **33(4)**: 702–724.
- Shepherd, S.A., McComb, A.J., Bulthuis, D.A., Neverauskas, V., Steffensen, D.A. and West, R. (1989). Decline of seagrasses In Larkum, A.W.D., McComb, A.J. and Shepherd, S.A. (eds) *Biology of Seagrasses: A treatise on the biology of seagrasses with special reference to the Australian region* (Elsevier: Amsterdam) pp346–393.
- Short, F.T. (1983). The seagrass *Zostera marina* L.: Plant morphology a bed structure in relation to sediment ammonium in Izembek Lagoon, Alaska. *Aquatic Botany* **16**: 149–161.
- Short, F.T. (1987). Effects of sediment nutrients on seagrasses: Literature review and mesocosm experiment. *Aquatic Botany* **27**: 41–57.
- Short, F.T., Dennison, W.C. and Capone, D.G. (1990). Phosphorus limited growth in the tropical seagrass *Syringodium filiforme* in carbonate sediments. *Marine Ecology Progress Series* **62**: 169-174.
- Short, F.T. and McRoy, C.P. (1984). Nitrogen uptake by leaves and roots of the seagrass *Zostera marina* L. *Botanica Marina* **27**: 547–555.

- Short, F.T. and Wyllie-Echeverria, S. (1996). Natural and human-induced disturbance of seagrasses. *Environmental Conservation* **23**: 17–27.
- Short, F.T., Burdick, D.A., Granger, S. and Nixon, S.W. (1996). Long-term decline in Eelgrass *Zostera marina*, L., Linked to Increased Housing Development In, Kuo, J, Phillips R.C., Walker, D.I. and Kirkman H. (EDS) Seagrass Biology: Proceedings of an International Workshop Rottneest Island, Western Australia, 25–29 January 1996 pp291–298.
- Short, F.T., Davie, M.W., Gibson, R.A. and Zimmerman, O.F. (1985). Evidence of phosphorus limitation in carbonate sediments of the seagrass *Syringodium filiforme*. *Estuarine, Coastal and Shelf Science* **20**: 419–430.
- Slomp, C.P., Van Raaphorst, W., Malschaert, J.F.P., Kok, A. and Sandee, A.J.J. (1993). The effect of deposition of organic matter on phosphorus dynamics in experimental marine sediment systems. *Hydrobiologia* **253**: 83–98.
- Smith, F.W. and Loneragan, J.F. (1997). Interpretation of plant analysis: concepts and principles. In: Plant analysis: an interpretation manual. 2nd ed, (eds) Reuter, D.J. and Robinson, J.B. CSIRO Melbourne. pp3–33.
- Smith, S.V. (1984). Phosphorus versus nitrogen limitation in the marine environment. *Limnology and Oceanography* **29(6)**: 1149–1160.
- Sposito, G. (1989). The chemistry of soils (Oxford University Press Inc: New York) 277pp.
- Stapel, J., Aarts T.L., Van Duynhoven, B.H.M., De Groot, J.D., van den Hoogen, P.H.W. and Hemminga, M.A. (1996). Nutrient uptake by leaves and roots of the seagrass *Thalassia hemprichii* in Spermonde Archipelago, Indonesia. *Marine Ecology Progress Series* **134**: 195–206.
- Stirling, H.P. and Wormald, A.P.(1977). Phosphate/sediment interaction in Tolot and Long Harbours, Hong Kong and its role in estuarine phosphorus availability, *Estuarine, Coastal Marine Science* **5**: 631–642.
- Strickland, J.D.H. and Parsons, T.R. (1972). A practical handbook of seawater analysis. Fisheries Research Board of Canada Bulletin No. 167 (2nd Edition) Ottawa 310pp.
- Sundby, B., Gobeil, C., Silverberg, N. and Mucci, A. (1992). The phosphorus cycle in coastal marine sediments. *Limnology and Oceanography* **37(6)**: 1129–1145.
- Tabachnick, B.G. and Fidell, L.S. (1989). Using multivariate statistics. (Harper and Row Publishers: New York) 746pp.
- Terrados, J and Duarte, C.M. (1999). Experimental evidence of reduced particle resuspension within a seagrass (*Posidonia oceanica* L.) meadow. *Journal of Experimental Marine Biology and Ecology*. **243**: 45–53.

- Terrados, J., Duarte, C.M., Kamp-Neilsen, L. Agawin, N.S.R., Gacia, E., Lacap. D., Fortes, M., Borum., J., Lubanski, M. and Greve, T. (1999). Are seagrass growth and survival affected by reducing conditions in the sediment? *Aquatic Botany* **65**: 175–98.
- Thayer, G.W., Kenworthy, W.J. and Fonseca, M.S. (1984). The ecology of eelgrass meadows of the Atlantic Coast: A community profile. U.S. Fish Wildl. Serv. FWS/OBS-84/02 147pp.
- Thursby, G.B. and Harlin, M.M. (1982). Leaf-root interaction in the uptake of ammonia by *Zostera marina*. *Marine Biology* **72**: 109–112.
- Tiller, K.G., Merry, R.H., Zarcinas, B.A. and Ward, T.J. (1989). Regional geochemistry of metal-contaminated surficial sediments and seagrasses in upper Spencer Gulf, South Australia. *Estuarine, Coastal and Shelf Science* **28**: 473-493.
- Touchette, B.W. and Burkholder, J.M. (2000). Review of nitrogen and phosphorus metabolism in seagrasses. *Journal of Experimental Biology and Ecology* **250**: 135–167.
- Treize, D.L. and Stephenson, P.J. (1990). *Rocks and landscapes of the Townsville district*. Queensland Department of Resource Industries, Brisbane.
- Udy, J.W. and Dennison, W.C. (1996). Estimating nutrient availability in seagrass sediments In: Kuo, J, Phillips, R.C., Walker, D.I. and Kirkman H. (Eds) *Seagrass Biology: Proceedings of an International Workshop Rottneest Island, Western Australia, 25–29 January 1996* pp163–172.
- Udy, J.W. and Dennison, W.C. (1997a). Growth and physiological responses of three seagrass species to elevated nutrients in Moreton Bay, Australia. *Journal of Experimental Marine Biology and Ecology* **217**: 253–257.
- Udy, J. W. and Dennison, W.C. (1997b). Seagrass physiological responses used to identify anthropogenic nutrient inputs. *Marine and Freshwater Research* **48**: 605–614.
- Udy, J.W. and Dennison, W.C. (1999). Seagrasses and sediment nutrients: species comparison and fertilisation responses at Rottneest Island, W.A. In *The Proceedings of the Seventh International Marine Biology Workshop, Rottneest Island, 1996*.
- Udy, J.W., Dennison, W.C., Lee Long, W.J. and McKenzie, L.J. (1999). Responses of seagrasses to nutrients in the Great Barrier Reef, Australia. *Marine Ecology Progress Series* **185**: 257–271.
- Ullman, W.J. and Sandstrom, M.W. (1987). Dissolved nutrient fluxes from the nearshore sediments of Bowling Green Bay, Central Great Barrier Reef lagoon (Australia). *Estuarine, Coastal and Shelf Science* **24**: 289–304.
- Van Katwijk, M.M., Vergeer, L.H.T., Schmitz, G.H.W. and Roelofs, J.G.M. (1997). Ammonium toxicity in eelgrass *Zostera marina*. *Marine Ecology Progress Series* **157**: 159–173.

- Van Lent, F., Verschuure, J.M. and Van Veghel, M.L.J. (1995). Comparative study on populations of *Zostera marina* L. (eelgrass)—*in situ* nitrogen enrichment and light manipulation. *Journal of Experimental Marine Biology and Ecology* **185**: 55–76.
- Verduin J.J., Backhaus J.O. (2000). Dynamics of plant-flow interactions for the seagrass *Amphibolis antarctica*: Field observations and model simulations. *Estuarine, Coastal and Shelf Science* **50**: 185–204.
- Wachenfield, D., Oliver, J. and Morrissey, J. (1998). State of the Great Barrier Reef World Heritage Area 1998 (Great Barrier Reef Marine Park Authority: November 1998) 139pp.
- Walker, D.I. (1989). Regional Studies—Seagrasses in Shark Bay, The Foundations of an ecosystem In: Larkum, A., McComb, A. and Shepherd, S.A. (Eds) (1989) *Biology of Seagrasses* (Elsevier: Amsterdam) pp182–210.
- Walker, D.I. and McComb, A.J. (1992). Seagrass degradation in Australian coastal waters, *Marine Pollution Bulletin*, **25**: 191–195.
- Walker, D.I., Dennison, W.C. and Edgar, G. (1999). Status of seagrass research and knowledge. In: Bulter, A. and Jernakoff, P. (1999) *Seagrass in Australia; Strategic review and development of an R & D plan* (FRDC 1999).
- Walker, D.I. and McComb, A.J. (1988). Seasonal variation in the production, biomass and nutrient status of *Amphibolis antarctica* and *Posidonia australis* Hook F. in Shark Bay, Western Australia. *Aquatic Botany* **31**: 259-275.
- Walker, T.A. (1991). Pollution and the Great Barrier Reef. *Search* **22(4)**: 115–117.
- Walker, T.A. and O'Donnell, G.O. (1981). Observations on nitrate, phosphate and silicate in Cleveland Bay, northern Queensland. *Australian Journal of Marine and Freshwater Research* **32**: 877–887.
- Ward, T.J. (1987). Temporal variation of metals in the seagrass *Posidonia australis* and its potential as a sentinel accumulator near a lead smelter. *Marine Biology* **95**: 315–321.
- Wasson, R.J. (1997). Run-off from the land to rivers and the sea In: Turia, N. and Dalliston C. (Compilers). *Proceedings Volume 1. The Great Barrier Science Use and Management National Conference. November 25–29 1996. Townsville* pp23–41.
- Waycott, M. and Les, D.H. (1996). An integrated approach to the evolutionary study of seagrasses. In: Kuo, J, Phillips, R.C., Walker, D.I. and Kirkman H. (Eds) *Seagrass Biology: Proceedings of an International Workshop Rottneest Island, Western Australia, 25–29 January 1996*.
- West, R.J., Larkum, A.W.D. and King, R.J. (1989). Regional studies—seagrasses of South Eastern Australia. In: Larkum, A., McComb, A. and Shepherd, S.A. (Eds) (1989) *Biology of Seagrasses* (Elsevier: Amsterdam) pp230–260.

- Williams, D. (2001). Impacts of terrestrial runoff on the Great Barrier Reef World Heritage Area. Report to CRC for Ecologically Sustainable Development of the Great Barrier Reef World Heritage Area, Townsville.
- Williams, S.L. (1987). Competition between the seagrass *Thalassia testudinum* and *Syringodium filiforme* in a Caribbean lagoon. *Marine Ecology Progress Series* **35**: 91–98.
- Wilson, D.P. (1949). The decline of *Zostera marina* L. at Salcombe and its effects on the shore. *Journal of the Marine Biology Association UK* **28**: 395–412.
- Wolanski, E. (1994). Physical oceanographic Processes of the Great Barrier Reef (CRC Press: Boca Raton).
- Wolanski, E., Jones, M. and Williams, W.T. (1981a). Physical properties of Great Barrier Reef Lagoon waters near Townsville II: Seasonal Variations *Australian Journal of Marine and Freshwater Research* **32**: 321–334.
- Wolanski, E., Jones, M. and Williams, W.T. (1981b). Physical properties of Great Barrier Reef Lagoon waters near Townsville. I: Effects of Burdekin River Floods. *Australian Journal of Marine and Freshwater Research* **32**: 305–319.
- Woolfe, K.J., Larcombe, P., Ridd, P., Orpin, A.R., Bryce, S. and McIntyre, C. (1996). A brief field guide to the Burdekin Delta, and Cocoa Creek In: Larcombe, P., Woolfe, K.J. and Purdon, R.G. (1996) (editors) Great Barrier Reef : Terrigenous Sediment Flux and Human Impacts—Second Edition November 1996 CRC Reef Research Centre Current Research Townsville; Australia pp. 164–173.
- Wright, S.J., Carrasco, C., Calderon, O. and Paton, S. (1999). The El Niño Southern Oscillation variable fruit production, and famine in a tropical forest. *Ecology* **80(5)**: 1632–1647.
- Yellowlees, D. (Ed). (1991). Land use patterns and nutrient loading of the Great Barrier Reef Region. Proceedings of the Workshop held at the James Cook University of North Queensland, 17–18 November 1990. (Sir George Fisher Centre for Tropical Marine Studies: James Cook University North Queensland) pp1–17.
- Young, P.C. and Kirkman, H. (1975). The seagrass communities of Moreton Bay, Queensland. *Aquatic Botany* **1**: 191–202.
- Zann, L.P. (1995). Our Sea, Our Future Major Findings of the State of the Marine Environment Report of Australia. Ocean Rescue 2000 program (Department of the Environment Sport and Territories; Canberra). 187pp.
- Zieman, J.C. and Zieman, R.T. (1989). The ecology of the seagrass meadows of the West Coast of Florida: A community profile. U.S. Department of the Interior Fish and Wildlife Service Research and Development Washington DC Biological Report 85 (7.25).

Appendix A—Reprint of Published Paper from Subchapter 4.1.

This appendix contains an electronic reprint of the paper published in the special issue of *Bulletin of Marine Science*.

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Appendix B—Statistical outcomes of analyses in Chapter 4.

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