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Coastal and marine protected areas

Managing Pollution In The Great Barrier Reef – Success?

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The Great Barrier Reef (GBR) lies off Australia's NE coast and is both a national Marine Park and a World Heritage Area. Adjacent to the GBR a catchment of area 400,000 km2 is almost completely developed for agriculture, predominantly beef grazing and sugarcane, horticulture, cotton and grains cropping. It is well recognised that pollutant runoff (particularly sediment, nutrients and pesticides) from agriculture to the GBR is causing serious widespread damage to GBR ecosystems including coral reefs and seagrass meadows. The degradation is compounded by climate change impacts. Coral cover on the GBR in the central and southern parts has fallen from values near 50% in the 1960s to 14% currently. It was recognised in the 1980s that degradation due to agricultural pollution was an issue for the GBR and after decades of research and monitoring a plan to address the issue was developed in 2003 (Reef Plan). Reef Plan was finally implemented through an Australian Government initiative Reef Rescue in 2008 based on incentive payments to farmers, with matching farmer funding, to improve management practices. In 2009 the Queensland State Government introduced legislation to improve farm management using a regulatory approach. The combination of these initiatives has led to a small improvement in the water quality of river discharge from the GBR catchment first able to be detected through modelling in 2011. Continuation of Reef Plan initiatives is expected to continue to improve water quality in the GBR albeit slowly. Along the coast of the GBR a number of major ports exist with the largest of these exporting coal. The coal exporting ports include Gladstone, Hay Point and Abbott Point while other more general cargo ports include Townsville and Cairns. All the coal ports are in the process of major expansion for both increased coal and coal seam gas exports. Expansion involves huge dredging operations and dumping of the dredge spoil at sea. In Gladstone where the expansion commenced in 2010 dredging is taking place in sediments that are known to be contaminated with heavy metals, TBT and petroleum hydrocarbons and in some areas overlie acid sulphate soils. The environmental management regime for the development is deficient in both planning and execution and it is claimed that serious environmental impacts are now occurring. It is not certain that the major expansions planned for the other ports will be managed in any better way given the deficiencies in both the Australian and Queensland environmental assessment and protection system for large projects. The paper will compare the two management regimes and the separate threats they pose for the GBR.