

## Implementing a light-based seagrass management approach for a large scale dredging program

Katie Chartrand<sup>1</sup>, Catherine McCormack<sup>1</sup>, Michael Rasheed<sup>1</sup>

<sup>1</sup>D ept. Agriculture, Fisheries and Forestry, Northern Fisheries Centre, Cairns QLD 4870 Australia

Corresponding author: catherine.mccormack@daff.qld.gov.au

**Abstract.** Seagrass has been highlighted as a key ecosystem component at risk from port developments and associated dredging activities on the central east coast of Queensland Australia. Fisheries Queensland has developed a light-based approach to manage impacts on seagrasses from turbidity plumes associated with a large-scale port dredging program. *In situ* and laboratory seagrass shading tolerance studies were conducted to simulate the effects of a dredge plume-related reduction in light from increased turbidity. A review of historical seagrass trends at permanent transect monitoring sites throughout the region and associated Photosynthetically Active Radiation (PAR) data refined species-specific light requirements to develop a working light trigger value for a management intervention that would protect seagrasses from dredge plume impacts. This light-based approach is being trialed in parallel with turbidity management plans. The development, implementation and outcomes of this Light-Based Seagrass Management Approach will be presented.

---

This reference should be cited as “Proceedings of the 10th International Seagrass Biology Workshop (ISBW10), 25-30 November 2012, Armação dos Búzios, Brazil, Creed, J.C. & Oigman-Pszczol, S.S. (Eds.). Instituto Biodiversidade Marinha, Rio de Janeiro, Brazil, 108p”

