

## **The Residence Times of Land-sourced Contaminants in the Great Barrier Reef Lagoon and Their Impact on Reef Recovery Following Land-use Remediation in the Watershed**

***E. Wolanski*** and *J. Brodie*

ACTFR, James Cook University and Australian Institute of Marine Science, Townsville, Australia

Following land-use remediation in the watersheds of the Great Barrier Reef the hoped-for recovery of corals in the central region of the reef depends on the residence time of land-sourced contaminants. That time is measured in years to decades, possibly even centuries, for fine sediment. Coral recovery thus may take decades. The exception may be the top few meters of wave-swept coral reefs surrounded by relatively deeper waters and where the fine sediment is minnowed within a year by wind waves. Ecohydrology modelling suggests that the sustainable recovery of corals may require doubling the presently proposed nutrient removal rate. The ultimate restoration of the Great Barrier Reef corals requires also addressing and mitigating climate change globally.

Contact Information: Eric Wolanski, ACTFR, James Cook University, Townsville, Queensland 4811, Australia, Phone: 07-47814191, Email: [e.wolanski@aims.gov.au](mailto:e.wolanski@aims.gov.au)