

KATHRYN BERRY

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PhD candidate 2013 to 2016
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Physical and chemical effects of coal on tropical marine organisms

Originally from Canada, Kathryn completed her BSc in Environmental Science and Biology at Dalhousie University, Canada and her MSc at the University of Bremen, Germany. Her MSc research focused on trace metal pollution at coral reefs in the Caribbean, in affiliation with the Smithsonian Tropical Research Institute, Panama and the Berlin Museum for Natural History. Her previous roles include assistant wildlife biologist and orca conservation warden in Canada

Kathryn's research investigates the effects of coal dust contamination on tropical marine organisms. Despite local and international concern related to the shipment of coal through the GBR, there are currently large knowledge gaps pertaining to the risks associated with coal dust contamination in the tropical marine environment.

The overall objective of Kathryn's PhD research is to identify the biological responses of certain tropical marine organisms to coal dust in order to allow more accurate prediction and assessment of the risks of chronic coal dust loss and major coal spills within the Great Barrier Reef World Heritage Area (GBRWHA). Specific objectives are to:

1. Quantify threshold concentrations (lethal and sub-lethal) of coal dust that are harmful to corals (at various life history stages), seagrass and reef fish;
2. Improve the accuracy of hydrodynamic models that predict the transport of coal from land to reef;
3. Establish baseline coal contamination values at coral and seagrass environments in the GBRWHA.

Kathryn's research will provide marine park managers, regulators and industry with scientifically rigorous information and tools to improve impact assessments and risk modelling, as well as prioritise aspects of major coal spill mitigation and clean-up efforts.

