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Dynamics of coral reef fish at aggregation sites within the Great Barrier Reef Marine Park

Eric was raised in North Queensland and graduated from JCU with a BSc (hons) in Marine Biology. Following University, he travelled extensively before settling back in Cairns in 2005, Eric now lives with his wife and two daughters and works full time as a Marine Biologist for a tourist company making daily visits to The Great Barrier Reef (GBR).

Knowledge on fish aggregation sites is minimal on the GBR, they are often perceived as spawning sites and the information is typically limited to few species.

The goal of this study is to identify what physical and biological factors influence coral reef fish at aggregation sites in the Great Barrier Reef Marine Park. The research is multi-disciplinary and will employ a variety of techniques. Specific objectives are to;

- estimate abundance, size structure and individual biomass of aggregating species;
- investigate the effects of environmental factors on abundance of larger reef fish using time series and regression analysis of an eight year data set;
- map current flow at and adjacent to the aggregation site;
- quantify the effects of current speed and direction on community structure and behaviour of coral reef fish at an aggregation site using fixed video cameras;
- document the presence and behaviour of predators at the aggregation site;
- construct a fine scale, high resolution model of the fish aggregation site to determine the driving forces behind fish aggregations and to predict fish egg dispersal;
- use long term data, gathered from citizen science monitoring projects in the GBR, to locate other fish aggregation sites.

Eric's preliminary research indicates that current flow and temperature are the main environmental drivers in influencing the abundance of fish that form aggregations.