Abstract:
Measuring the abundance and size of fish in the sea is problematic, yet this basic information is fundamental to the sustainable management of fish stocks. Catch based data have a number of factors which influence their usefulness (such as spatial and temporal variability in the catchability of fish and changes in fish behavior). Greater emphasis on Ecosystems Based Fishery Management makes these challenges more complex, as data is required on the abundances and lengths of multiple species. Similarly, with management shifting towards a finer scale it is important to understand links between fish and the habitats. This requires techniques capable of sampling at a fine scale.

There is an increasing need for fishery independent sampling to supplement conventional catch based data, and replace it in some areas where destructive sampling is not compatible with management plans. In this presentation I discuss some of the newer stereo-video techniques which are being developed and trialed.

I present a number of case studies from Western Australia where we have used these approaches to address ecological questions involving the broad and fine scale distribution of fishes, the effects of marine conservation and fisheries management.