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Developing spatially disaggregated CPUE indices for SPRFMO orange roughy stocks

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Catch and effort data from commercial fishing activities are currently the principal information source available to assess deepwater fish stocks within the SPRFMO Convention Area. Several factors complicate the use of these data for developing reliable annual indices of stock abundance. These include targeted fishing on local and seasonal aggregations and non-random spatial expansions/contractions of fishing effort over time, as linked to exploratory fishing, local depletion phenomena, changes in management regimes and/or economic motives. A spatially-disaggregated approach which assumes that overall population abundance is contributed from several distinct subarea strata within the fishing grounds, can serve to alleviate some of these problems and provide more reliable indices of stock abundance. This paper will summarise preliminary work on the development of spatially disaggregated CPUE indices for SPRFMO orange roughy stocks, and discuss future directions for improvement.

Supporting document:
Roux, M.J., Doonan, I., Edwards, C.T.T., Clark, M.R. FAR 2017/01 Low information stock assessment of orange roughy *Hoplostethus atlanticus* in the South Pacific Regional Fisheries Management Organisation Convention Area. http://fs.fish.govt.nz/Page.aspx?pk=113&dk=24213