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Progress on stock assessments of SPRFMO Orange roughy using spatially disaggregated CPUE and a Bayesian biomass dynamics model

Marie-Julie Roux

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Biomass estimation for orange roughy on the high seas is complicated by stock structure uncertainties, by the lack of fisheries independent acoustic or trawl survey time series, and the lack of representative samples of population age structure. A data-limited approach was developed and implemented to derive biomass trajectories and evaluate the status of SPRFMO orange roughy stocks. This approach consists of a cohort-aggregated Bayesian biomass dynamics model fitted to a constructed catch series and spatially disaggregated CPUE index of abundance. This paper will summarise preliminary assessment results with sensitivity testing on key assumptions; present ongoing progress with developing catch series for SPRMO orange roughy; and discuss strengths and limitations of low information stock assessments in the context of management needs and the available information.

Supporting documents:

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

McAllister M.K. and Edwards, C.T.T. FAR 2016/52 Applications of a Bayesian surplus production model to New Zealand fish stocks. http://fs.fish.govt.nz/Page.aspx?pk=113&dk=24193