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| **Sensitivity** | **Models** | |
| **YFT** | **BET** |
| Spatial stratification | 9, 8, 6, 5, 4 regions | |
| M | Alternative base M (Hoyle et al. 2023) and M estimated in model, Lorenzen form | |
| Size comp pre-treatment/filtering etc. | New filtering approaches (Tom Peatman) | |
| Growth | Explore estimating Richards growth curve internally | Explore estimating VB and Richards growth curves internally |
| Data weighting | Explore whether empirical data weights can be used, comparing residuals to statistical distributions. Lognormal CV for CPUE. If Dirichlet multinomial is not used, consider iterative reweighting e.g. McAllister-Ianelli or Francis TA1.8 for length and Punt method for conditional age-at-length data. | |
| Selectivity | Explore judicious merging/splitting of fisheries, as well as sharing selectivity between similar fisheries | |
| CPUE models | * Apply CPUE developed from regions modelled independently and scaled by global model. Does this form of scaling give reasonable MFCL outputs and fits to the data? This may provide more accurate estimates of region-specific parameters in the CPUE standardization and, possibly, less biased CPUE indices but regional scaling needs to be maintained. * In the previous assessments, MFCL did not fit the seasonal pattern in CPUE. Apply CPUE developed from seasonal model to understand if accounting for seasonality in the CPUE standardization improves the MFCL fits to the CPUE. Since catchability is not estimated in the catch-conditioned model, there is no confounding between seasonal catchability and a seasonal CPUE standardization model. * Apply variance-covariance matrix for CPUE in MFCL. Can ungroup selectivity but catchability needs to be grouped for regional scaling. | |
| Tagging | Consider dropping tags from region 9, or not using them for movement estimates. Explore tag mixing options, especially for spatial structure with fewer regions | |
| Technical creep in LL index fisheries | 1% per year as a sensitivity model run | |
| Steepness | Standard range for values of *h* included in uncertainty grid  Should this row be deleted – it is included below in the grid section? | |
| Movement | Externally estimated movement coefficients (SEAPODYM) | |

**Key uncertainties for grid/ensemble:**

The grid uncertainty axes will be based on findings from model explorations and findings. The final grid axes will fulfil two conditions: (1) the alternatives evaluated are all considered sensible modelling options, and (2) they lead to considerably different estimates of stock status and thus represent the overall uncertainty in the assessment. Possible grid axes include:

Steepness

Growth – maybe

Tag mixing

Movement

Data weighting

Spatial structure

**Projects:**

CPUE/Effort creep - longline focus project

WCPFC size composition data review

Enhancing otolith collections – bet and yft

Scoping of modelling framework – beyond MFCL: seek support for a workshop, include other tRFMOs and other platform developers

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