

Addendum to the paper IOTC-2020-WPTT22(DP)-11 (Bayesian Skipjack and Yellowfin Tuna CPUE Standardisation Model for Maldives Pole and Line 1970-2019) presented at the IOTC–2020–WPTT22(DP) meeting

During the WPTT 2020 data preparation workshop, two issues were raised in response to the pole and line CPUE standardisation:

1. The effect of treatment of small vessels in the model may bias the index.
2. The apparent significant decline in abundance early in the time series does not coincide with the significant increase catches in the fisheries.

This suggested that the early time series may not be reliable and/or may reflect changes in catchability rather than abundance. Because the early time series depends on the IPTP data which is not vessel specific, small vessels cannot be excluded from the index when these data are included. However, the IPTP data can be excluded along with those components of the model (motorisation and fleet size composition sub-models) that are necessary for its interpretation.

This version only used the vessel specific data for 1995-2018, and removed the smallest vessels (<7.5m length) from the model. This should remove any bias from the treatment of small vessels in the model. The resulting indices from this are compared to the indices derived from the full model.

The main differences between the two series occur when the expert offset is included. If it is not included, differences are small (Fig. A.1, A.2) and should have little impact on the stock assessment. This suggests that the full time series should be used truncated based on decisions on which sections of the time series most likely follow changes in abundance, rather than excluding the IPTP data altogether, unless the expert offset is to be used in the base model.

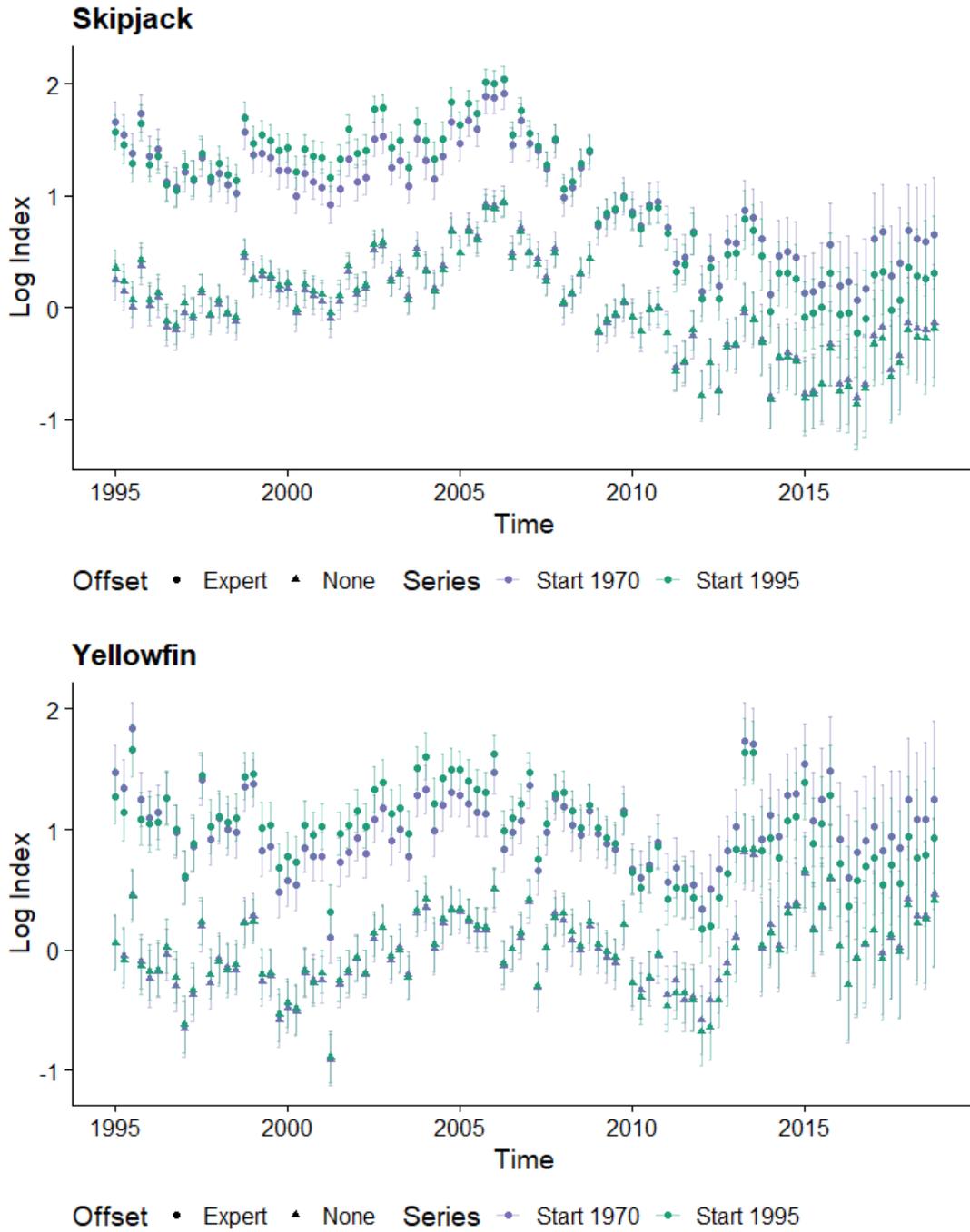


Figure A.1 Log standardised CPUE indices for skipjack and yellowfin from the full model (Start 1970) and the truncated model (Start 1995) with and without the subject expert offset.

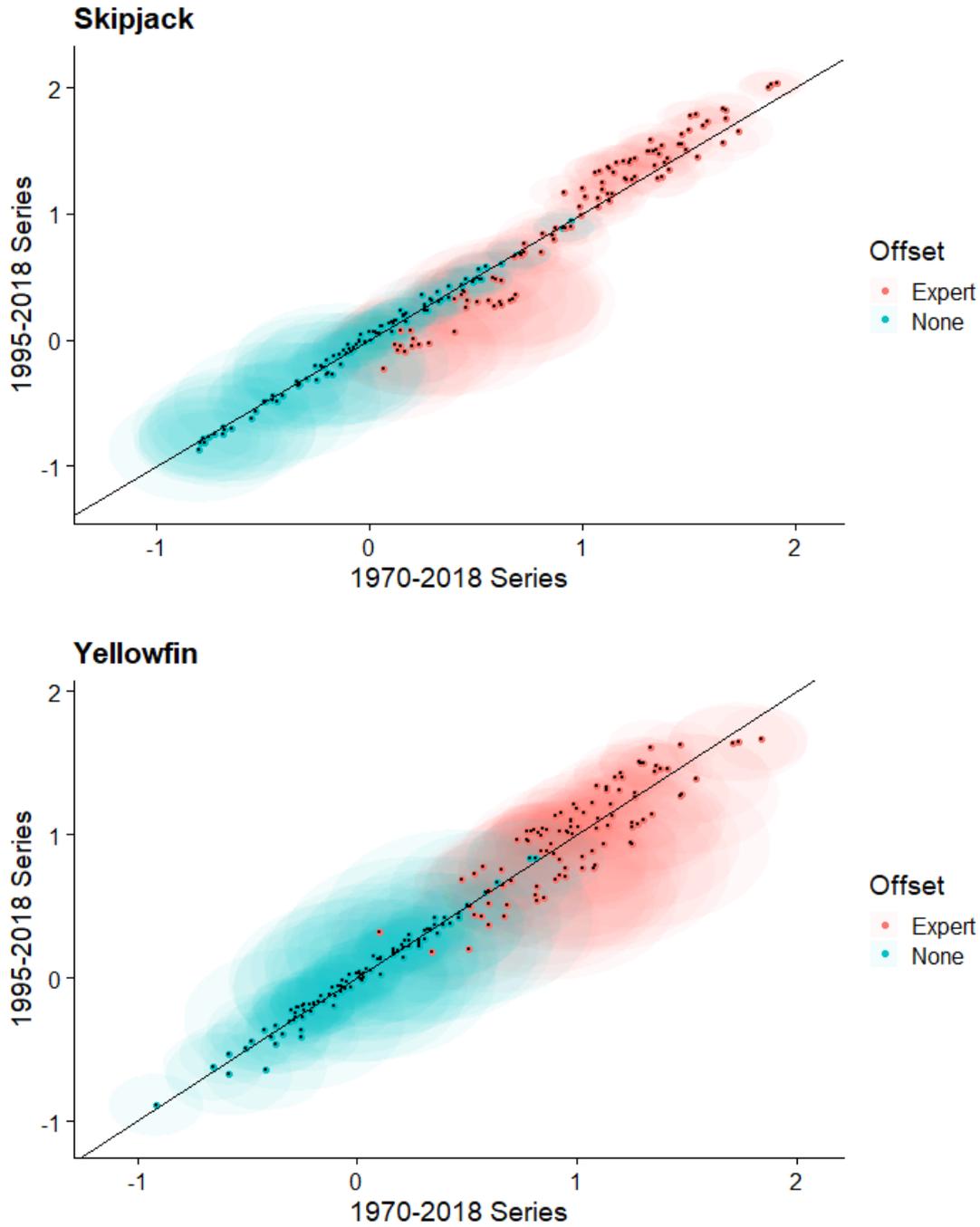


Figure A.2 Standardised CPUE indices for skipjack and yellowfin from the full model (Start 1970) and the truncated model (Start 1995) with and without the subject expert offset with 80% credible intervals, illustrating the agreement between the indices.