

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT
ON YELLOWFIN TUNA OVERFISHING

Dr. Mark Maunder (Inter-American Tropical Tuna Commission [IATTC]) briefed the Scientific and Statistical Committee (SSC) on the stock assessment conducted for yellowfin tuna in the Eastern Tropical Pacific (Agenda Item F.3.a, Attachment 2). The SSC reviewed the assessment, noting that there is currently no terms of reference document for highly migratory species stock assessments. The report on the yellowfin tuna stock assessment, however, includes most of the information typically included in a stock assessment report used for Council decision-making and hence could be reviewed by the SSC. Based on its review of the assessment, the SSC endorses the assessment, and its use for status determination purposes.

The assessment indicates that the spawning stock biomass (SSB) has been relatively stable since 1984 with periodic fluctuation. For the base-case assessment, the stock is estimated to be slightly below SSB_{MSY} with a fishing mortality rate (F) slightly above F_{MSY} . Therefore, based on the point estimates from the base-case assessment, overfishing is occurring and the stock is in an overfished state under the terms of the IATTC treaty. However, it should be noted that there is considerable uncertainty in the “current” estimates of both F and SSB. Also, note that the “current” estimates reflect an average over 2003-2005.

The base-case assessment assumes that recruitment is independent of SSB (i.e. steepness is one). The extent to which “current” F exceeds F_{MSY} depends on the relationship between spawning biomass and recruitment; the lower the value of steepness, the greater the implied extent of overfishing. Dr. Maunder noted that steepness for yellowfin tuna was unlikely to be one, but that it was also unlikely to be much lower than one.

The recruitment used in the calculation of SSB_{MSY} is the average over the entire period considered in the assessment. However, Dr. Maunder noted that the results of the assessment are consistent with a change in average recruitment in about 1984. The value of SSB_{MSY} would have been higher had it been based on recent (post-1983) recruitment; and hence the current stock status determination would have been more pessimistic.

Finally, the SSC notes that, at present, very few U.S.-flagged vessels operate in the commercial fishery for yellowfin tuna and landings are minimal (approximately 1% of the total). Hence, multi-national management arrangements are needed to stop overfishing.