

**The Commission for the Conservation and Management of
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean**

**Northern Committee
Eighth Regular Session**

**Nagasaki, Japan
3–6 September 2012**

**NORTH PACIFIC ALBACORE REFERENCE POINTS
Requests to the International Scientific Committee
for Tuna and Tuna-like Species in the North Pacific Ocean**

1. For the purposes of determining potential limit reference points for a precautionary approach management framework for North Pacific albacore, Northern Committee (NC) requests advice from the ISC on the following:
 - i) Is the stock-recruitment relationship known, and in particular a reliable estimate of the steepness parameter (h) for the stock?
 - ii) Are the key biological (natural mortality, maturity) and fishery (selectivity) variables reasonably well estimated?

2. To determine the suitability of candidate reference points identified by the ALBWG in its 2011 stock assessment, NC8 further requests that the ISC provide advice with respect to the following:
 - a) For each of the following levels of F , expected yields, with measures of variability of these expected yields, under high, low and historical average recruitment scenarios, over the course of 10-year projections (and, in addition, 25-year projections for $F_{SSB-ATHL}$), the probabilities of breaching (in at least 1 year of the projection period) the Interim Management Objective (average of the 10 historical lowest years of SSB) and each of the depletion levels $SB_{10\%}$, $SB_{20\%}$, $SB_{30\%}$ and $SB_{40\%}$:
 - i) $F_{SSB-ATHL}$
 - ii) F_{MAX}
 - iii) $F_{0.1}$
 - iv) F_{MED}
 - v) $F_{10\%}$, $F_{20\%}$, $F_{30\%}$, $F_{40\%}$, $F_{50\%}$
 - b) A determination of whether or not under different levels of fishing mortality (average $F_{2006-2008}$, average $F_{2002-2004}$) that the above candidate reference points will be exceeded.
 - c) To provide the influence of the environmental variation such as regime shift and decadal change on F_{SPR} and empirical based reference points.