

COMISION INTERAMERICANA DEL ATUN TROPICAL INTER-AMERICAN TROPICAL TUNA COMMISSION

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STOCK ASSESSMENT METHODS WORKSHOP

7-11 NOVEMBER 2005.
LA JOLLA, CALIFORNIA (USA)

The workshop will review alternative stock assessment methods. In particular, the current method used by the IATTC staff to assessment tunas in the EPO by the IATTC (A-SCALA) will be compared to several general stock assessment models: a) MULTIFAN-CL, used by the SPC for tuna stock assessments in the WCPO and for the Pacific- wide bigeye tuna assessment; b) Stock Synthesis II, used to assess groundfish on the west coast of the United States; and c) CASAL, used for stock assessments in New Zealand. Other assessment methodologies will also be discussed. The outcome of this meeting will influence the future direction of stock assessment methods used for assessing tuna stocks in the EPO.

Several specific questions we would like to address during the meeting are:

- 1) How to model fishing mortality: Pope's approximation, effort deviates (MF-CL), or VPA type annual variation in selectivity
- 2) How to model selectivity: functional form, smoothness penalties, cubic splines
- 3) Do we need to integrate across random effects (e.g. recruitment deviates) and estimate variances?
- 4) How to estimate uncertainty: Bayesian; profile likelihood; model uncertainty
- 5) How to include environmental data
- 6) How to do forward projections
- 7) What likelihood functions to use for different data sets and how to weight data sets in the assessment
- 8) Should we use spatial structure in the population dynamics or are spatially defined fisheries adequate?