ICES Training Programme

Stock assessment (advanced)

28 November –2 December 2016

Venue: ICES Secretariat, Copenhagen, Denmark

OBJECTIVE

The general objective of the course is to train stock-assessment scientists and advisors in population dynamics and advanced stock assessment. The course intends to put theory into practice as much as possible by working on examples from different angles.

CONTEXT & LEVEL

This is an advanced course in fisheries stock assessment modelling where we explore generic properties of stock assessment methods. The course includes uncertainty estimation of the relevant parameters estimated in stock assessments. It is aimed at scientists who have some foundation in the fundamentals of stock assessments.

In the course we examine various assumptions as well as strenghts and weaknesses of different methods.
The course will take you through the different steps that are part of any stock assessment. First: exploratory data analysis and the potential information content in the available data; Second: we discuss setting up structured population dynamic models. As a third step, we link these population dynamics models to existing data by calculating model predictions for catch, survey, and other relevant types of data. We discuss and demonstrate fitting the models to data using likelihood functions.
To this end, we work with different optimizing/sampling tools. Importantly, we discuss how to estimate and present uncertainties in the stock assessment models that we build. Finally, we estimate reference points from the assessment model outcomes.

Besides the building of assessment models and estimating uncertainty using various tools we also discuss closely related analytical techniques to improve scientific advice for managers. We show some exploratory analyses to reveal existing patterns in the data at hand, and how fish stock dynamics can be modelled under different assumptions.

FEE & ADMISSION

EUR 750 for ICES member country affiliated participants.
EUR 1250 for non-member country affiliated participants.
Max. 25 participants.

PROGRAMME

The five-day course is organized as a series of sessions with alternating focus on theoretical concepts and hands-on work on examples. These example sessions will be completed in different software environments such as R and AD model builder (see flr-project.org and admb-project.org).

Monday	AM	Introduction assessments & populations
	PM	Lab population dynamics
Tuesday	AM	Likelihood estimation and optimizers
	PM	Lab stock assessment
Wednesday	AM	ADMB and uncertainty estimation
	PM	Uncertainty estimation and Bayesian models
Thursday	AM	Assessment model formulation
	PM	Use of tagging data
Friday	AM	Reference points and MSE
	PM	Summary and working on participants' data

INSTRUCTORS

- Jan Jaap Poos , Wageningen IMARES, The Netherlands janjaap.poos@wur.nl
- Richard Hillary, CSIRO Marine and Atmospheric Research, Rich.Hillary@csiro.au

PRACTICAL INFORMATION

The course includes background information, applied examples, and hands-on exercises. Participants are required to bring their own laptops (preferably MS Windows or GNU/Linux).
The working language is English.

CONTACT US

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Register online by 17 October 2016

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