



ICES Training programme

The International Council for the Exploration of the Sea (ICES) offers courses led by high-profile scientists and instructors. Visit the Training web page: www.ices.dk/training

Stock assessment (Advanced)

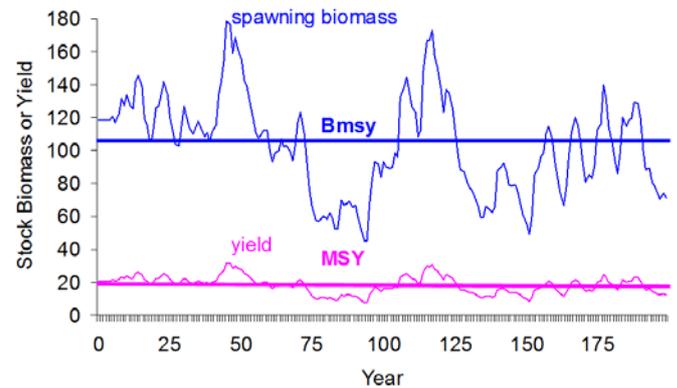
Context and level

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 strength 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. Finally and importantly, we discuss how to estimate and present uncertainties in the stock assessment models that we build.



Dynamic MSY



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.

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.

Course dates

18 – 22 November 2013

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).

Day	Topic
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 Harvest control rule simulation
	PM Summary and working on participants' data

Venue

International Council for the Exploration of the Sea
 H. C. Andersens Boulevard 44-46
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 Denmark
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info@ices.dk

You can find more information about:
 ICES HQ [here](#)
 Hotels close to ICES [here](#)
 The hostel next to ICES [here](#)

Fee

The fee for the course is €750¹. This covers only tuition fee.

Organization

The course is organized by the ICES Secretariat as part of the ICES Training programme.

The course and course materials are provided by Jan Jaap Poos, Wageningen IMARES and Richard Hillary, CSIRO Marine and Atmospheric Research.

The course includes background information, applied examples, and hand-on exercises.

Participants are required to **bring their own laptops** (preferably with MS windows or a GNU/Linux distribution) to connect to ICES network.

Admission and registration

The course is designed for a maximum of 25 participants. The working language is English.

Please use the on-line registration:

www.ices.dk/training

The deadline for the submission of applications is 17 September 2013.



Instructors

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¹The course fee for participants from non-ICES member countries is 1250 €