

**ICES**International Council for
the Exploration of the Sea**CIEM**Conseil International pour
l'Exploration de la Mer**ICES training course for DG-Mare 2014****Day 1 (11 December)**

| <i>Time</i> | <i>Topic</i> | <i>Lecturers</i> | <i>Approach</i> |
|-------------|---|--|---|
| 9:30 | Opening, welcome and introduction Why are we having this training course? | Alexander Stein (DG MARE) Jan Jaap Poos / Ciaran Kelly (ICES trainers) | |
| 9:45 | Who is who around the table | | Interactive |
| 10:00 | 1. Overview of scientific and advisory process History, structure and work of ICES. | Alexander Stein Jan Jaap Poos / Ciaran Kelly | 30 min lecture & 15 min discussion |
| 10:45 | Coffee/tea | | |
| 11:00 | 2. Introduction to advice summary sheets | Jan Jaap Poos / Ciaran Kelly | 30 min lecture & 30 min discussion |
| 12:00 | Break | | |
| 14:00 | 3. Data collection What we collect, how and why | Jan Jaap Poos / Ciaran Kelly | 45 min lecture & 45 min discussion |
| 15:30 | Coffee/tea | | |
| 16:00 | 3. Data collection (cont.) Exercise | Jan Jaap Poos / Ciaran Kelly | 60 min practical |
| 17:00 | "Icebreaker" (optional drinks nearby) | Alexander Stein | open-ended socialising and exchange |

Day 2 (12 December)

| <i>Time</i> | <i>Topic</i> | <i>Lecturers</i> | <i>Approach</i> |
|-------------|---|---------------------------------|---------------------------------------|
| 09:00 | 4a. Fishing mortality, SSB and recruitment (including stock assessment and forecasts) | Jan Jaap Poos / Ciaran Kelly | 30 min lecture & 15 min discussion |
| 9:45 | 4b. Practical: Making sense of trends in stocks | Jan Jaap Poos / Ciaran Kelly | 45 min practical |
| 10:30 | Coffee/tea | | |
| 11:00 | 5. Reference points and advice | Jan Jaap Poos / Ciaran Kelly | 30 min lecture & 30 min exercise |
| 12:00 | Break | | |
| 14:00 | 6. Data limited stocks | Jan Jaap Poos / Ciaran Kelly | 45 min lecture & 15 min discussion |
| 15:00 | Coffee/tea | | |
| 15:15 | 7. The ecosystem context of fisheries / multispecies advice / MSFD | Jan Jaap Poos / Ciaran Kelly | 45 min lecture & 15 min discussion |
| 16:15 | 8. Mixed fisheries advice | Jan Jaap Poos / Ciaran Kelly | 30 min lecture & 15 min discussion |
| 17:00 | Closing discussion | | 30 min discussion |

Detailed description of sessions

1. Overview of advisory process

Introduces the context of fisheries advice and the process whereby ICES produces its annual advice. This overview should place ICES advice in the context of the CFP, RFMOs and bilateral agreements, as well as provide reference to the international context of the UN and FAO.

2. Introduction to advice summary sheets

Introduces the ICES advice sheets from a road map perspective. In this session you will learn what information lies where, and have the opportunity to ask anything you ever wanted to know about these sheets (but were too busy to ask). There will be a short exercise to be completed by groups at the end of this lecture.

3. Data Collection

Provide background and detail (what and why) to the process of scientific fisheries data collection. In this session you should learn about scientific surveys (and why they cost so much!), what we can get from commercial data, and what role each element of these data play in resource assessment. There will be a 45 min lecture followed by a Q&A session, and after coffee break we will do a group exercise where you have to interpret your very own data. We will follow this exercise up with a discussion.

4. Fishing mortality, etc.

Introduces some of the basic principles behind population dynamics. In this session you should learn about the general concepts of population dynamics, the processes that govern population size, why age-determination of fish helps in getting better population forecasts and more. Once the basic principles behind population dynamics are out of the way, the introduction to stock assessment and forecasting will follow as a logical extension.

5. Reference points and advice

Introduces the principals behind the Precautionary approach (PA) and MSY (Maximum Sustainable Yield) concepts. In this session you will learn what each approach means in terms of the interpretation of these type of reference points.

6. Advice for data-limited stocks

ICES is continuously trying to find better ways for giving advice on fish stocks. Currently, a lot of effort is put into improving the advice for "data-limited stocks". These are fish stocks for which survey, catch, or fishing effort data is available, but for which there are no analytical stock assessments. This lecture discusses the advice procedures for these fish stocks.

7. The ecosystem context of fisheries

Until now, we have mainly focused on the fisheries management from a "single species" point of view. Here we discuss the broader context of fisheries management, in relation to policy frameworks such as the Marine Strategy Framework Directive. What do we know, and what do we not know about ecosystem aspects of fisheries? Latest developments on Multispecies advice (eg in Baltic in 2012).

8. Mixed fisheries advice

Introduces the mixed fisheries advice that has recently been applied for mixed fisheries in the North Sea. The advice considers different scenarios. We'll introduce the methodology and explain the rationale behind the different scenarios in the mixed fisheries advice.