

Theme Session N

Quality and precision of basic data underlying fish stock assessment and implications for fishery management advice

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The theme of this session addressing "Quality and precision of basic data understanding fish stock assessment and implications for fishery management advice" was very broad and this was reflected by the variety of talks that were presented, such as modelling, software development, quality control, monitoring (including electronic ones), surveys as well as incorporating effects of uncertainty.

A large number of presentations were focussed on modelling data to obtain precise estimates. It was interesting to note that most scientists are now following model-based approaches, including a strong emphasis on Bayesian modelling, but at the same time moving away from design-based approaches, which were mentioned for simple comparison. Bayesian modelling was addressed specifically during a small discussion period in the session. There seems to be a wide acceptance of this inference method, while simultaneously the group showed a genuine concern about the shortfalls arisen by the complexity and the consequent difficulty in understanding the concepts that support Bayesian modelling.

It was clear from the different presentations that monitoring is a multidisciplinary approach that must use distinct sources of information and can take advantage of the latest technological developments. Two presentations showing the usage of onboard electronic monitoring (e.g. video cameras plus sensors on winches) to obtain information about real time fishing activities, with lower costs in comparison to observer programmes, were outstanding examples.

It was also shown that sampling errors propagate through the information flow generating imprecise and possibly biased estimates of stock status. The link between the information collected by sampling procedures and the usage of that information was not evident. A talk was given proposing a framework to assure that the quality of the data used for stock assessments is optimum. This suggests that a different procedure is necessary in order to assure that the analyst dealing with the data obtains all the necessary information to make the best decision about the way the data are integrated (e. g. quality control procedures using standards and best practices).

The effects of fish distribution, ranging from patchily distributed species in Alaska to monkfish in the Northern European shelf, on abundance index estimates from trawl surveys were also discussed. Statistical methods to tackle this variability in fish distribution and consequent effects in the abundance indices were proposed.