Kobe Advice Framework

Laurence Kell

17 noviembre, 2016

Day 1

Day 1	
09:30 – 10:15	**Presentation:** The Kobe advice framework
10:15 – 10:45	**Presentation:** Assessment, data needs and assumptions
10:45 – 11:00	**Tea Break:**
11:00 – 12:15	**Exercise:**
12:15 – 13:15	**Lunch:**
13:15 – 14:30	**Presentation:** Assessment, data needs and assumptions
14:30 – 15:15	**Exercise:**
15:15 – 15:30	**Tea Break:**
15:30 – 16:30	**Presentation:** Stock Status and Reference points
16:30 – 17:00	**Summary of the day:** questions

The Kobe advice framework

The provision of fisheries management advice requires the assessment of stock status relative to reference points, the prediction of the response of a stock to management, and checking that predictions are consistent with reality.

Elements are + Management objectives + Target and limit reference points + Estimates of probability from stock assessments + Harvest control rules + Risk and uncertainty

Management objectives

There is a need to consider a range of management objectives and the trade-offs between them, e.g. related to yield, safety and stability.

The original objective of the tRFMOs is to keep stocks at a level that will support MSY. It is no longer sufficient to just know where we are, however, we also need to know where we are headed and to assess the impact of uncertainty on our ability to meet management objectives. Therefore to help implement the Precautionary Approach the tRFMOs have proposed limit reference points and are begining to simulation test Harvest Control Rules using MSE.

It is also important that indicators do not overlap in what they tell us.

Stock Status

The data are for the last Yellowfin assessment where there were 4 methods and 2 scenarios related to choice of CPUEs.

These will be used to illustrate the advice framework and uncertainty in parameter estimates, model assumptions and data

Historical estimates of stock status

Absolute

Kobe Phase Plot

Estimates of probability from stock assessments

Historical estimates of stock status

SS relative

Harvest control rules

Next I will i) provide examples of projections based on these, ii) do some hindcasting for validation iii) project under a HCR

Stock Assessment, data needs and assumptions

The provision of fisheries management advice requires the assessment of stock status relative to reference points, the prediction of the response of a stock to management, and checking that predictions are consistent with reality.

- Data
- Model assumptions
- Diagnostics
- Reliablity
- Stock status wrt reference points
- Projections

Then we can

- compare the assessment mode
- run some simulations using a shiny app where we vary options, i.e. M, steepness, . . .
- run simulations with HCR options
- convert Catch-at-size to Catch-at-age and run a VPA

Exercise:

Assessment, data needs and assumptions

Exercise:

Stock Status and Reference points

Day 2

Projection scenarios

Exercise:

Management Plans

Exercise:

Advice Framework

Scientific Advice

Scientific Advice

Risk and uncertainty

Stock Assessment

http://rscloud.iccat.int:3838/swo-med-xsa/

Data

Model assumptions

Diagnostics

Reliablity

Stock status wrt reference points

Projections

http://rscloud.iccat.int:3838/swo-med/

Prediction is often used synonymously citep{bray2009prediction} with forecast, projection and scenario. To avoid confusion we base our definitions on those of the International Panel on Climate Change

citep[IPCC]{field2012managing}. A projection is a potential future evolution of a quantity or set of quantities, a prediction or forecast is the result of an attempt to produce an estimate of the actual evolution of the future, while a scenario is a possible, plausible, internally consistent, but not necessarily probable, development.