DG MARE

Laurence Kell and Niels Hintzen

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.

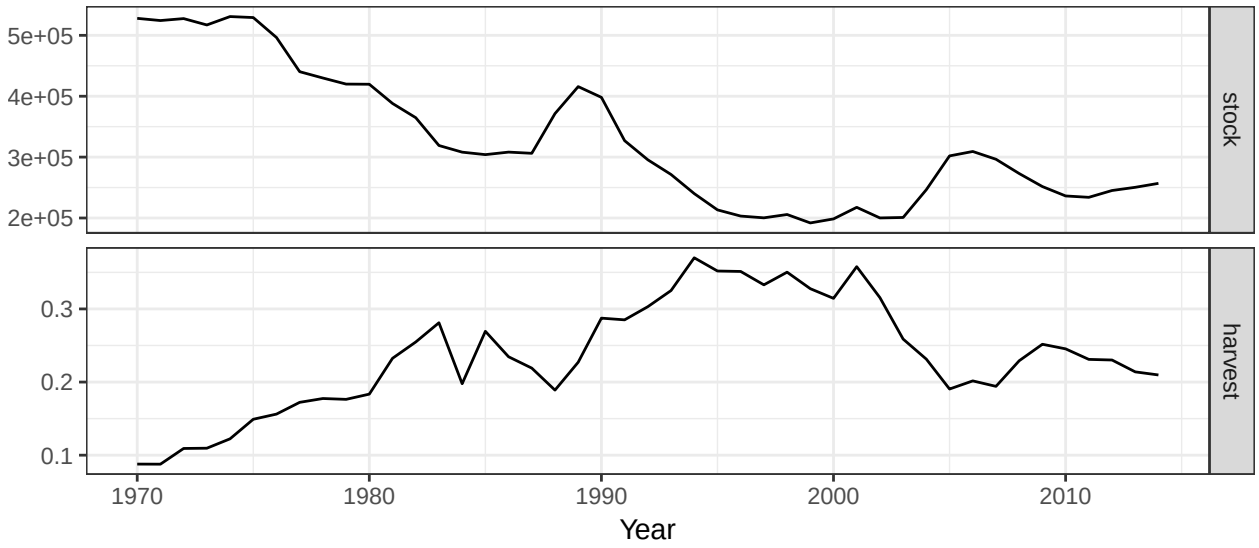
The original objective of the tRFMOs is to keep stocks at a level that will support MSY. It is no longer sufficient to just know where we are, however, we also need to know where we are headed and to assess the impact of uncertainty on our ability to meet management objectives. Therefore to help implement 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

Historical estimates of stock status

Absolute


5e+05
4e+05
3e+05
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stock
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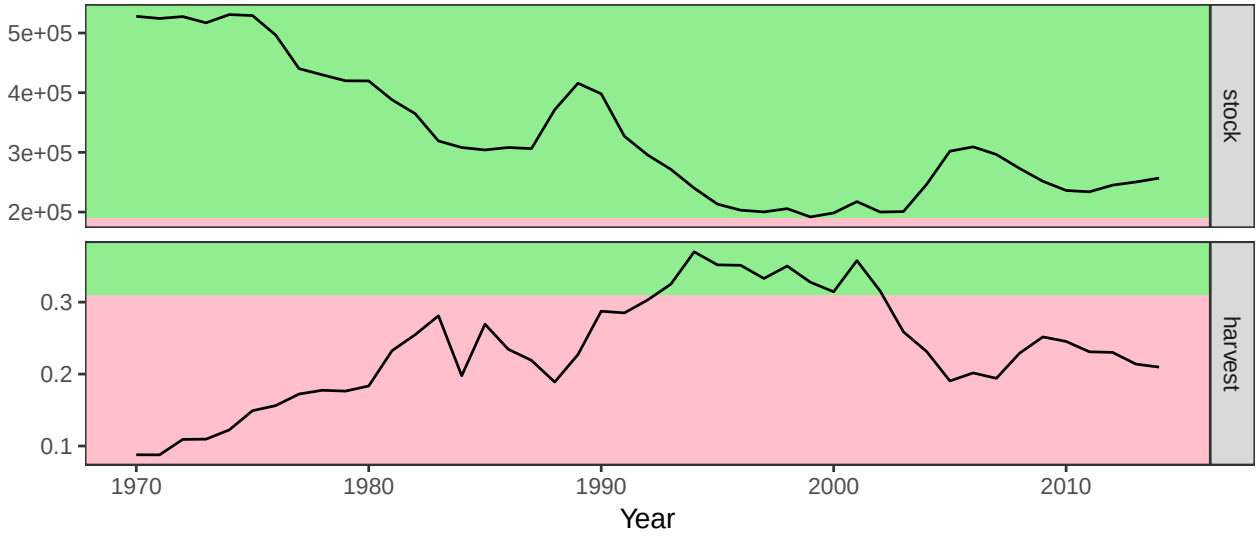
harvest
1970
1980
1990
2000
2010
Year


5e+05
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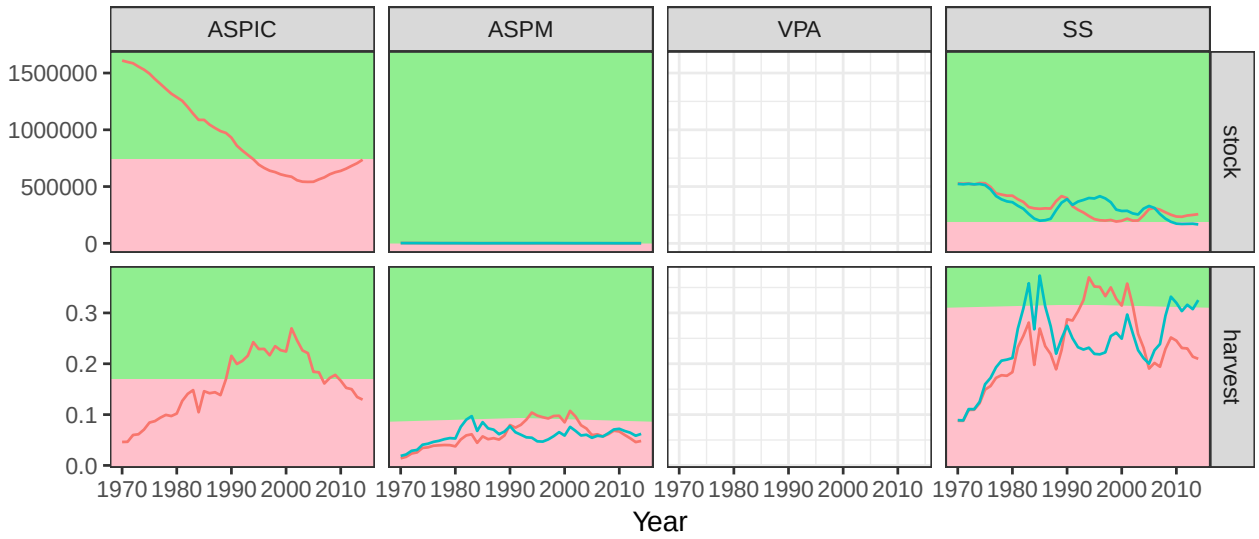
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stock
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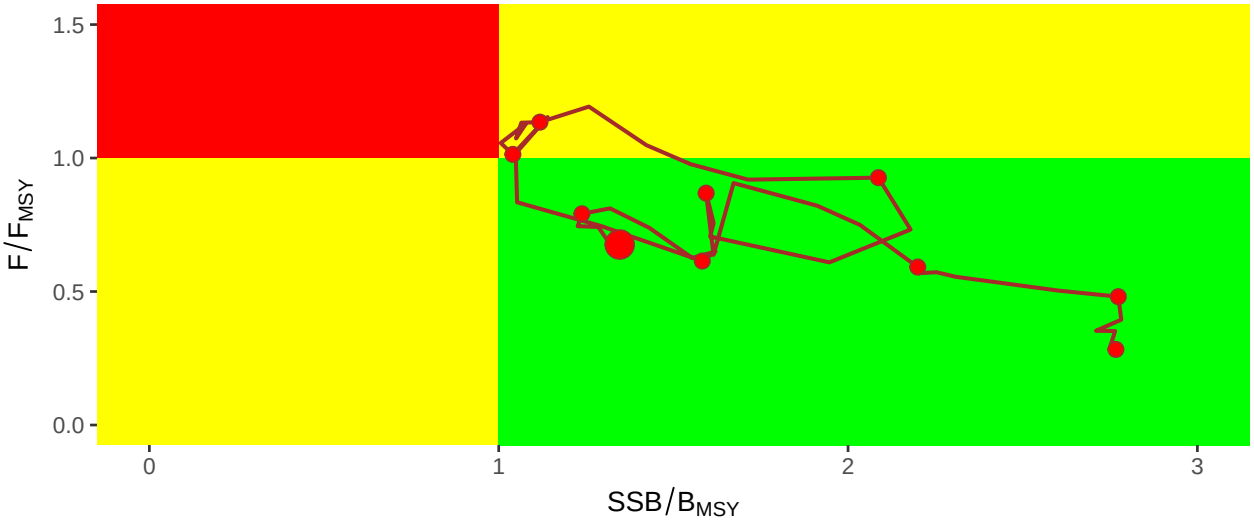
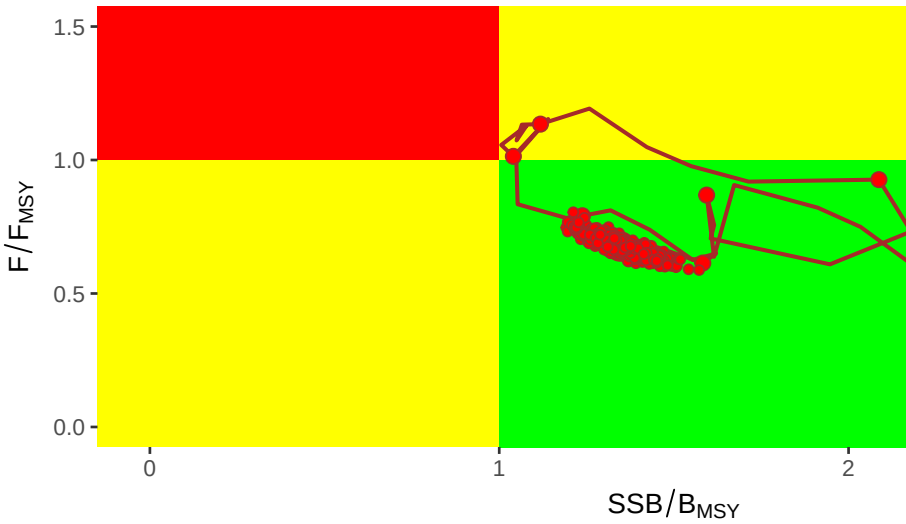
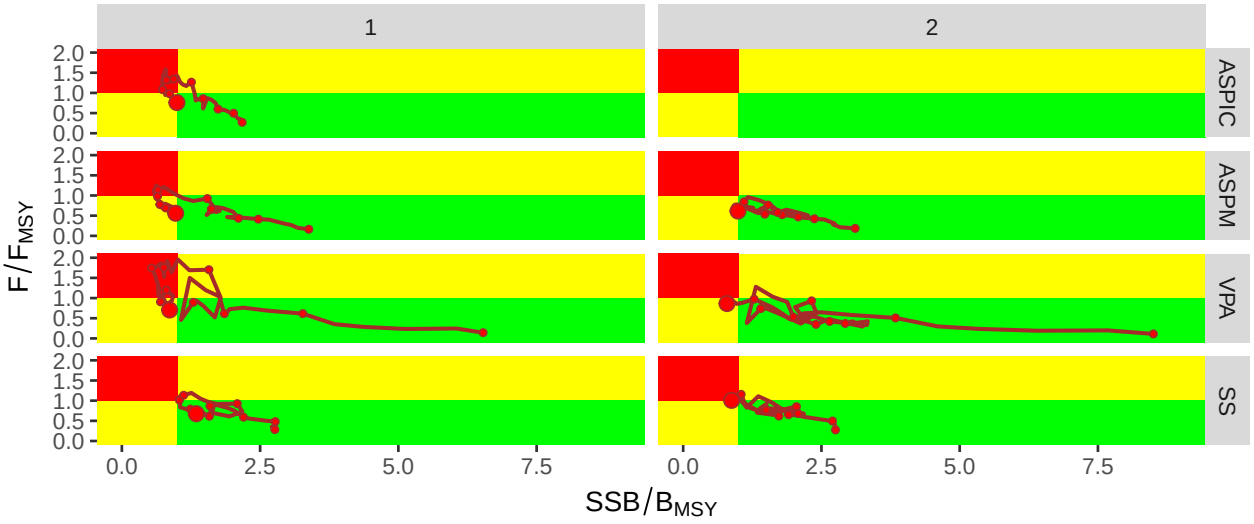
harvest
1970 1980 1990 2000 2010
Year

Kobe Phase Plot



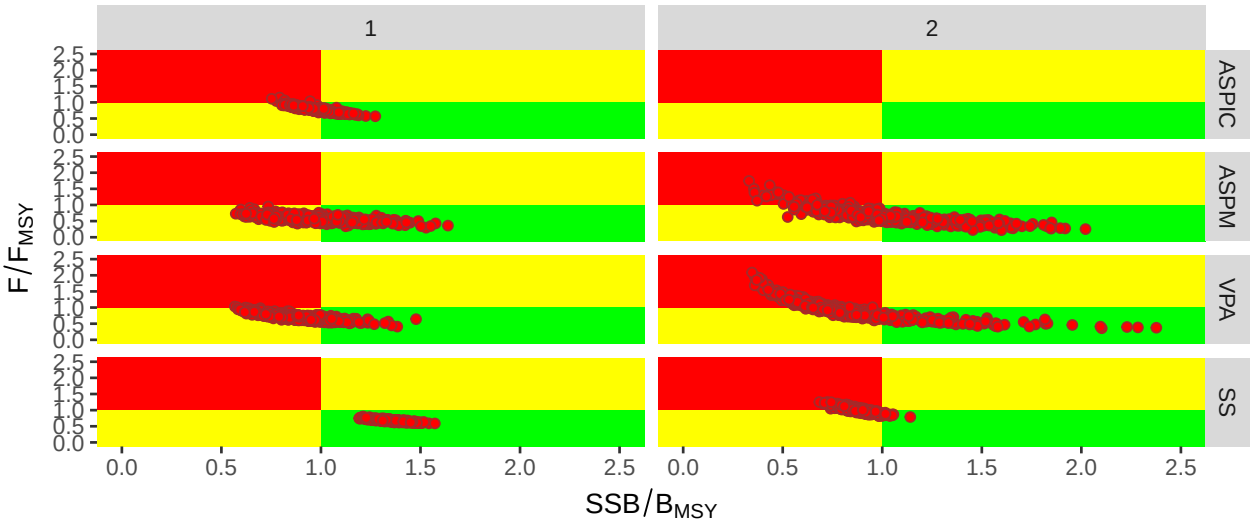


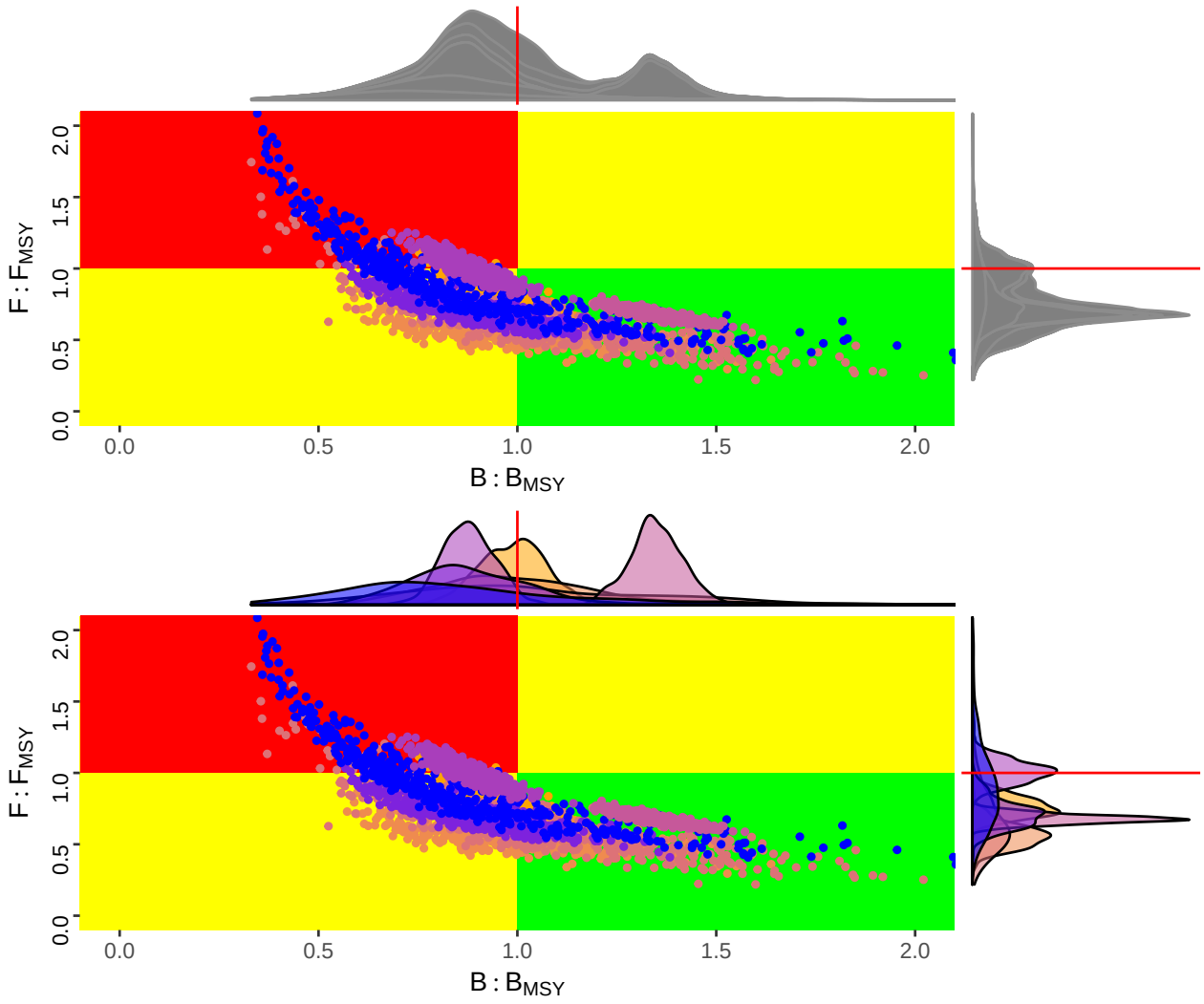
Estimates of probability from stock assessments



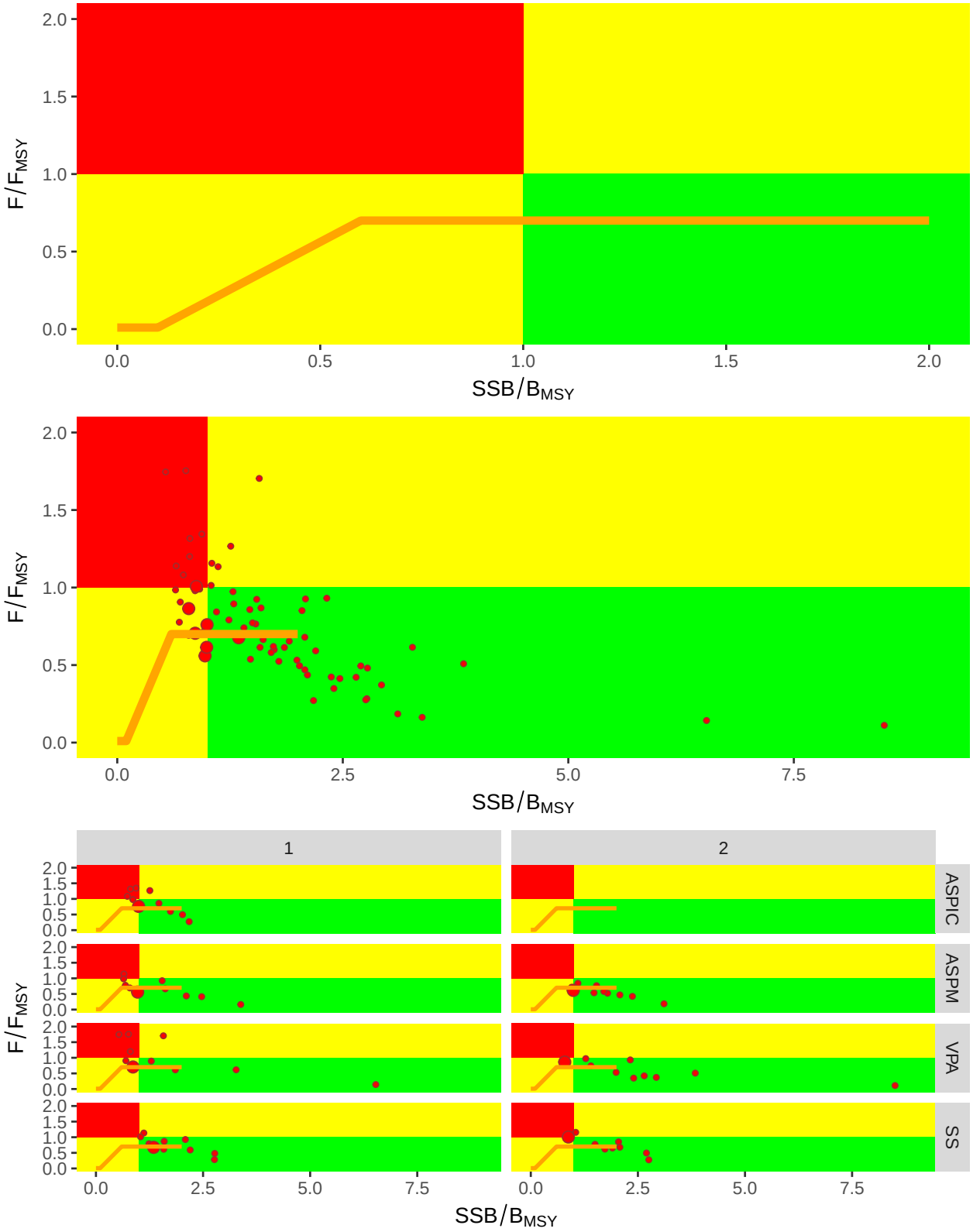
Historical estimates of stock status

SS relative




F : F_MSY
B : B_MSY
0.0
0.5
1.0
1.5
2.0

Harvest control rules



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

Exercise:

Assessment, data needs and assumptions

Exercise:

Stock Status and Reference points

Day 2

Day 2	
09:00 – 10:15	Presentation: Projection scenarios
10:15 – 10:45	Exercise:
10:45 – 11:00	Tea Break:
11:00 – 12:15	Presentation: Management Plans
12:15 – 13:15	Lunch:
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Projection scenarios

Exercise:

Management Plans

Exercise:

Advice Framework

Scientific Advice

Scientific Advice

Risk and uncertainty

Stock Assessment

Data

Model assumptions

Diagnostics

Reliablity

Stock status wrt reference points

Projections

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.