

SARDINE TWO-STOCK MODEL – KEY ISSUES

Basic Objectives

Review the current two-stock sardine assessment model and associated projection models, and advise how these might best be further developed if necessary and taken forward to provide a basis for management advice for the directed sardine fishery

Note that documents referenced below are sardine documents unless otherwise indicated.

Present models

- 1) Briefly review evidence for multiple stocks (P6)
- 2) Review current two-stock assessment model (P5, P1)
- 3) Review models for projecting future west/south movement (P1, P2)
- 4) Review implications of resource projections under these models (P3, P4)

Items for possible further consideration (P7)

- 1) Might existing measures of stock differentiation place bounds on the extent of interchange between stocks, and how might these be estimated?
- 2) Does a wider range of movement scenarios than at present require exploration – which would be priorities?
- 3) Are projections from some combinations of the current model and movement scenarios implausible, what further analyses might inform on that, and if so how should the model be adjusted to circumvent this situation. Possible issues/approaches to be considered include:
 - a) the form and estimation of stock-recruitment relationships
 - b) assumptions about pre-1994 movement in the assessment
 - c) incomplete coverage in recruitment surveys
 - d) the use of retrospective analyses
- 4) How should relative plausibility best be assigned to different models, and how should such relative plausibilities best be taken into account in developing management advice
- 5) Other