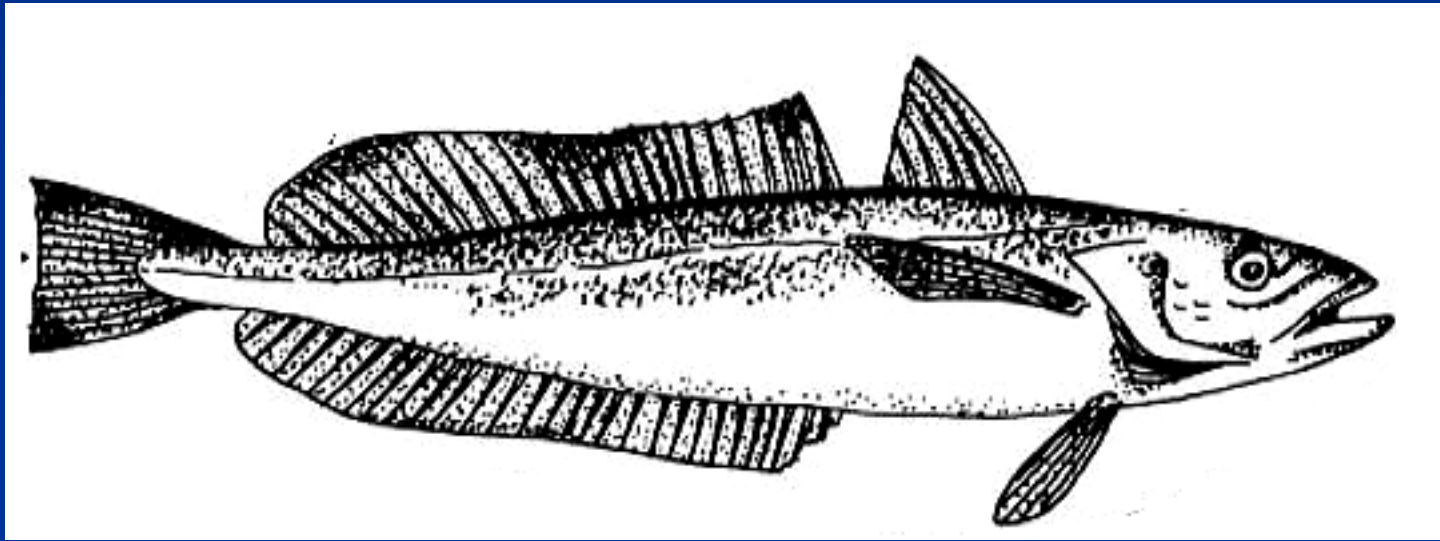
INTERNATIONAL REVIEW OF SA HAKE AND ABALONE ASSESSMENTS



REVIEW PROCESS

- Workshop held over past five days
- Three international reviewers with experience in stock assessment and evaluation of fishery harvest strategies
- Technical review of stock assessments and related issues – papers, presentations, discussion
- Review of data, models and assumptions
- Focus on what is and isn't known

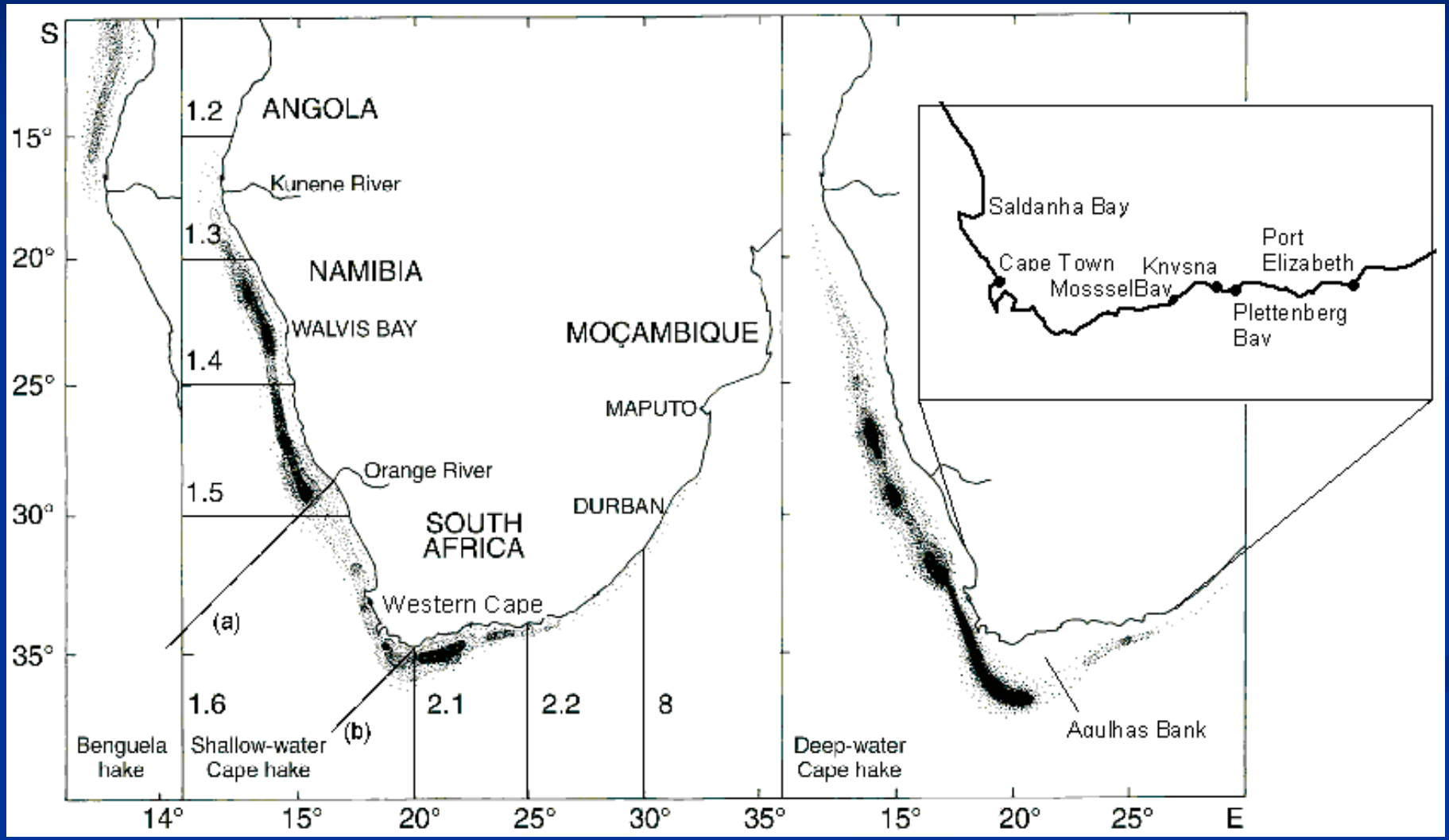
HAKE TERMS OF REFERENCE

- Review latest assessment
  - To be used to develop the new OMP for hake
  - [OMP is the set of rules for determining TACs]
- Provide advice on aspects of OMP design
  - What sort of rules should be tested?
  - How should performance be measured?
  - What are the key uncertainties to which the OMP should be robust?

BACKGROUND ON HAKE

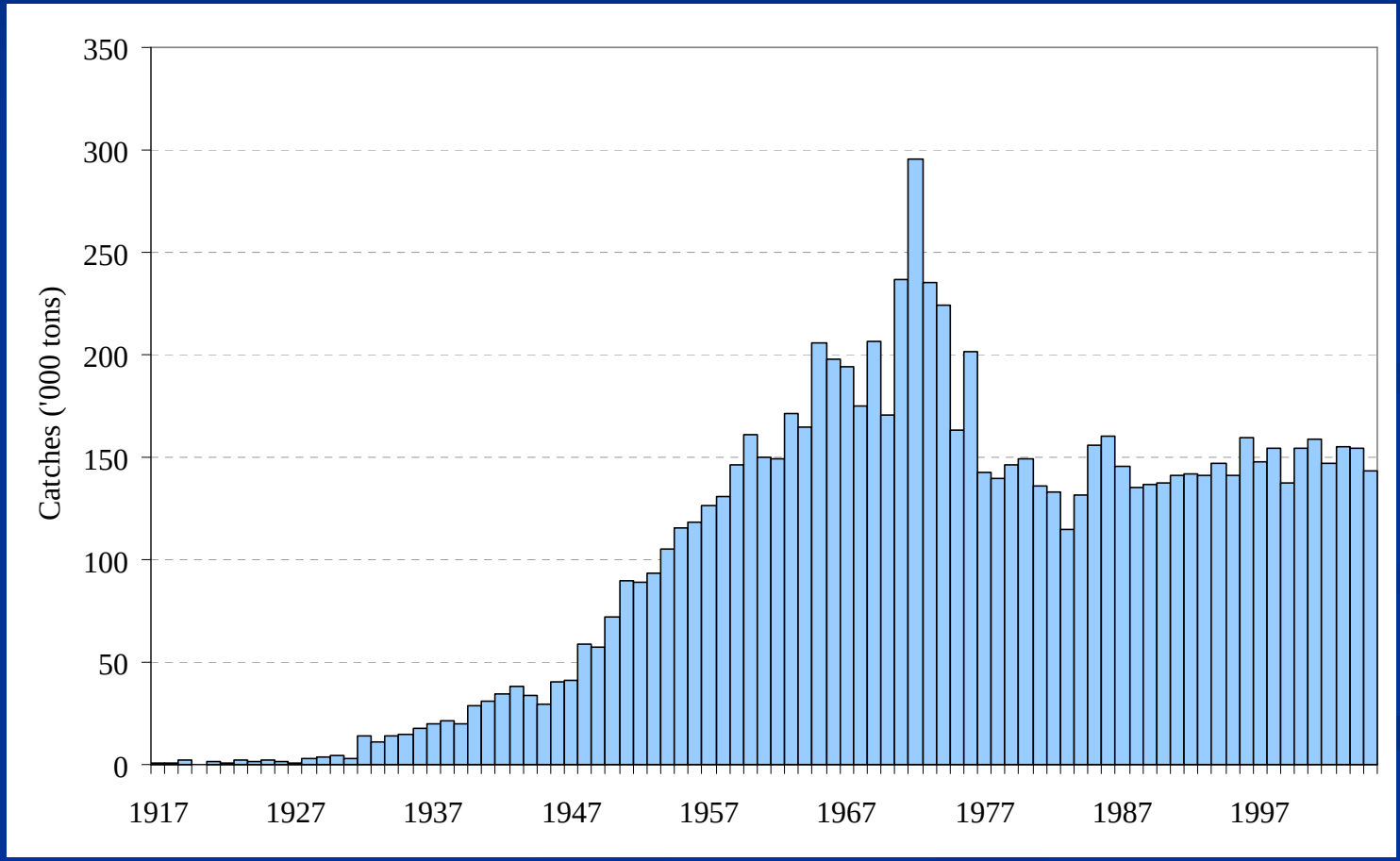
- Cape hake is two species
  - *M. capensis* – shallow-water hake
  - *M. paradoxus* – deep-water hake
- Assessed as two species but managed as one

HAKE DISTRIBUTION



PAST ANNUAL CATCHES

TAC for 2006: 150’000 tons



2006 ASSESSMENT

- Joint assessment for whole coast distinguishing two species
- Age-structured production models
- Fitted to:

  i) Catches from 1917

  ii) CPUE (pre- and post-1977)

  iii) Survey abundances (from 1985)

  iv) Catch-at-age information

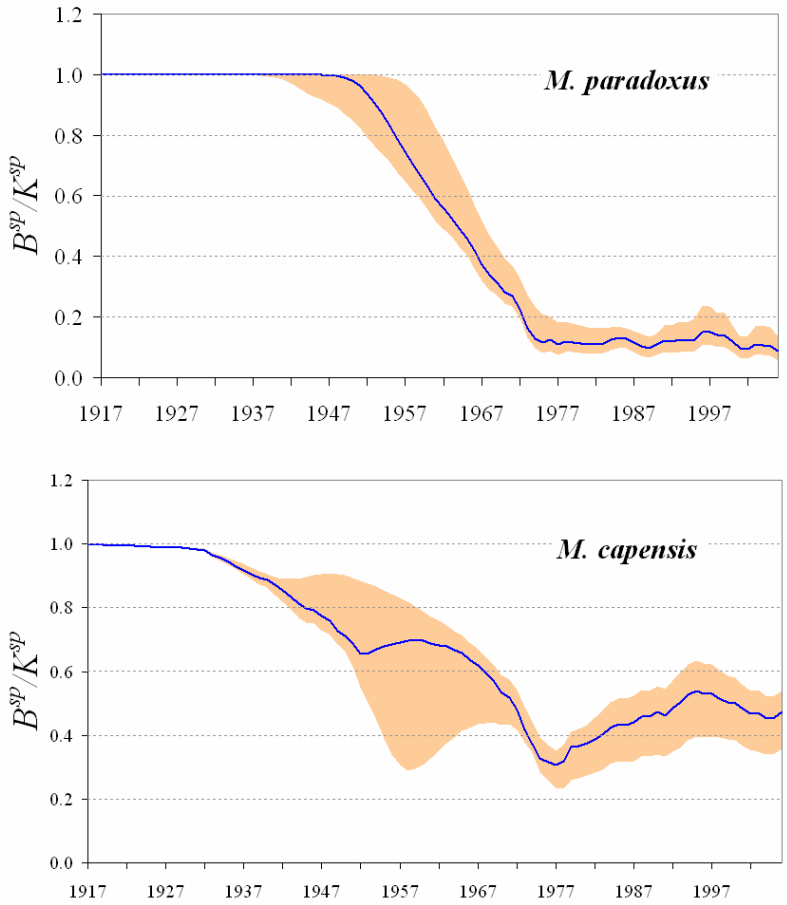
MAJOR UNCERTAINTIES

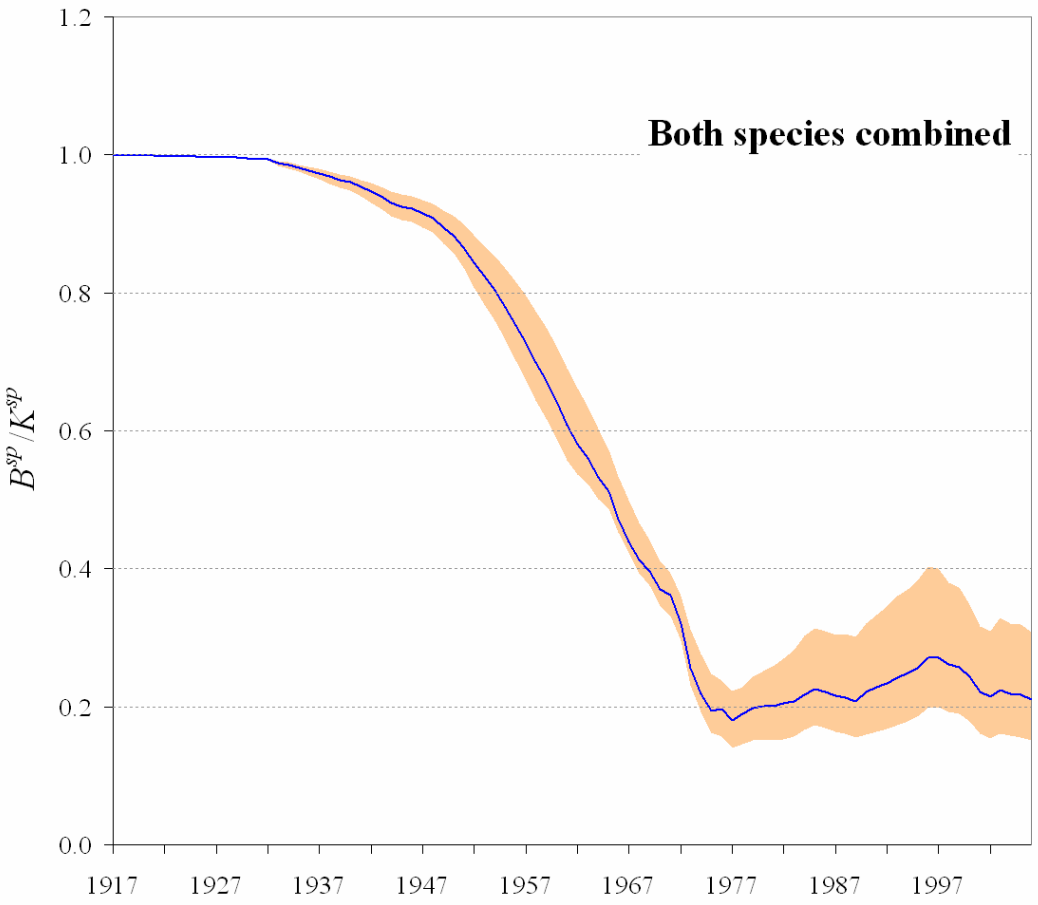
- Natural death rate ("Natural mortality")
- Split of catches between two species
- Shape of offspring-parent relationship ("Stock-recruitment curve")
- Recent recruitment levels

Results to be shown reflect 24 possible combinations of these factors

PAST RESOURCE TRENDS

Medians for spawning biomass B^{sp} with full range of values





OBJECTIVES

1. Get catch rates up quickly in the short-medium term

2. Get *M. paradoxus* back to target levels (MSYL) over 20 years

3. After likely initial cuts to achieve 1), secure greater TAC stability over time.

WHAT'S HAPPENED SINCE?

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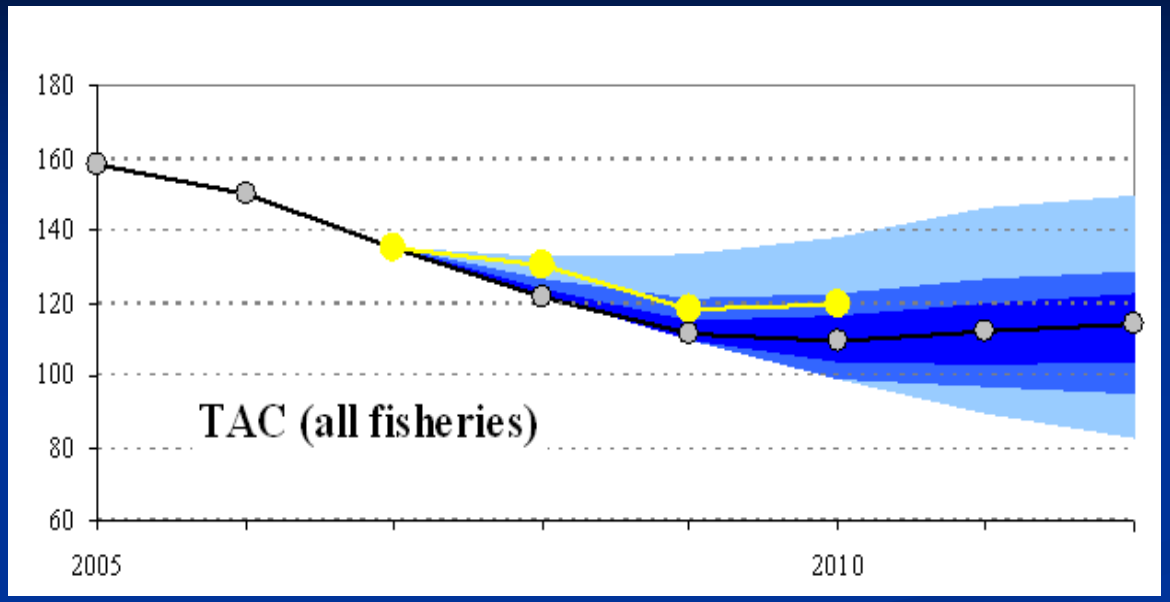

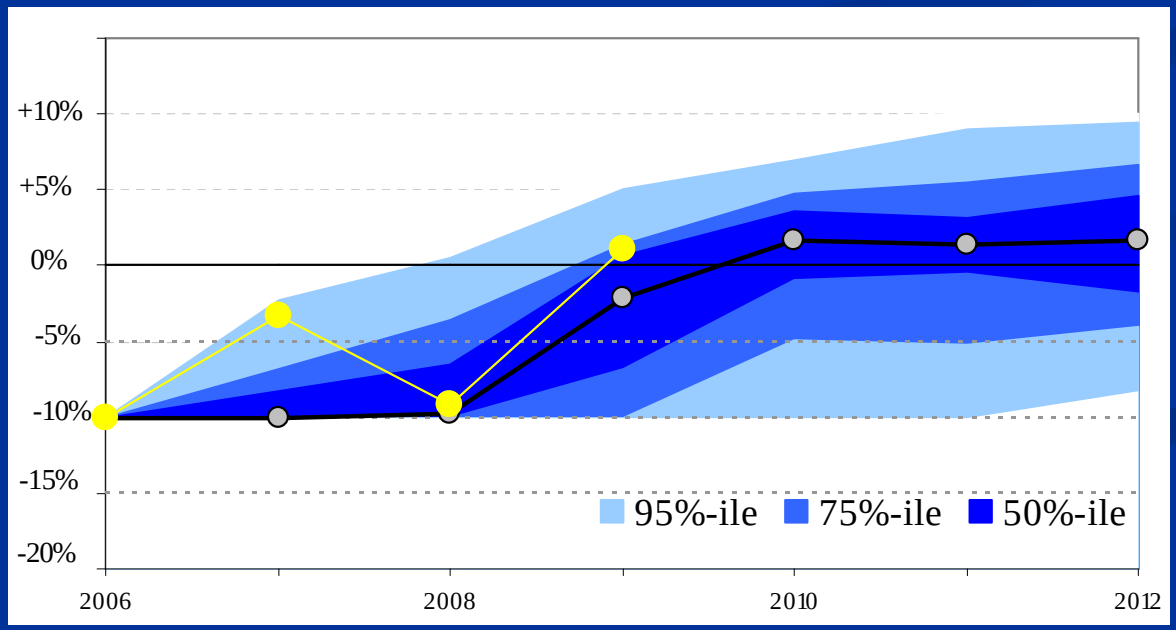

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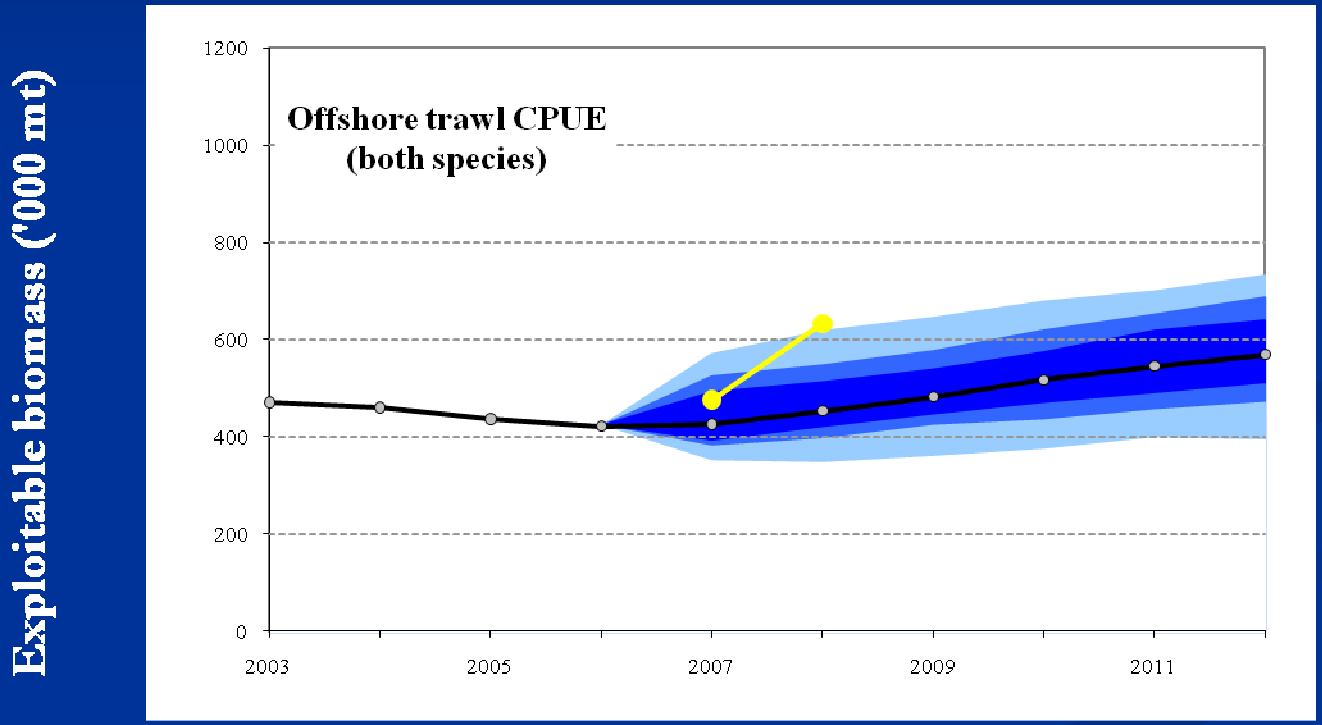

Towards OMP 2011

- Update the "base case" assessment
- Agree on the key uncertainties in the current assessment
- Choose a new reference set of scenarios and robustness tests against which to test potential OMPs for 2011
- Identify new candidate OMPs

Issues discussed during the review

- Changes to the assessment in response to recommendations from the 2008 review
- Why offshore hake appear to be more depleted than the inshore species
- Information on stock structure and movement
- Details of data analysis (e.g. how catches are split into the two separate species)

Key findings of the review

- Key recommendations of the 2008 review have been adopted in the assessment
- Subject to a number of technical recommendations, the current assumptions about stock structure are reasonable pending further studies
- Assumptions about when the fleet switched from inshore to offshore fishing are a key source of uncertainty

Current status of the resource

- Assessments before the 2006 OMP suggested that offshore hake were seriously depleted (as low as 8% of unfished levels)
- More recent model runs have suggested that the depletion may have been closer to 15%, still well below target levels and requiring rebuilding
- A coding error in the latest assessment means that we are still uncertain about current depletion levels
- New assessment results should be available by mid January in good time to complete OMP analyses