



ICES

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the Exploration of the Sea

CIEM

Conseil International pour
l'Exploration de la Mer

ICES Experience with Long Term Management Plans

By

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Chair, ICES Advisory Committee



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Outline of the Presentation

Type of evaluations

Objectives

Some Examples

Process issues

Types of Evaluations



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Qualitative

Deterministic

Stochastic Simulation Modeling

- Assessment Uncertainty
- Recruitment variability
- Model mis-specification
- Implementation error
- “Regime shifts”



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What about objectives

To satisfy the precautionary approach

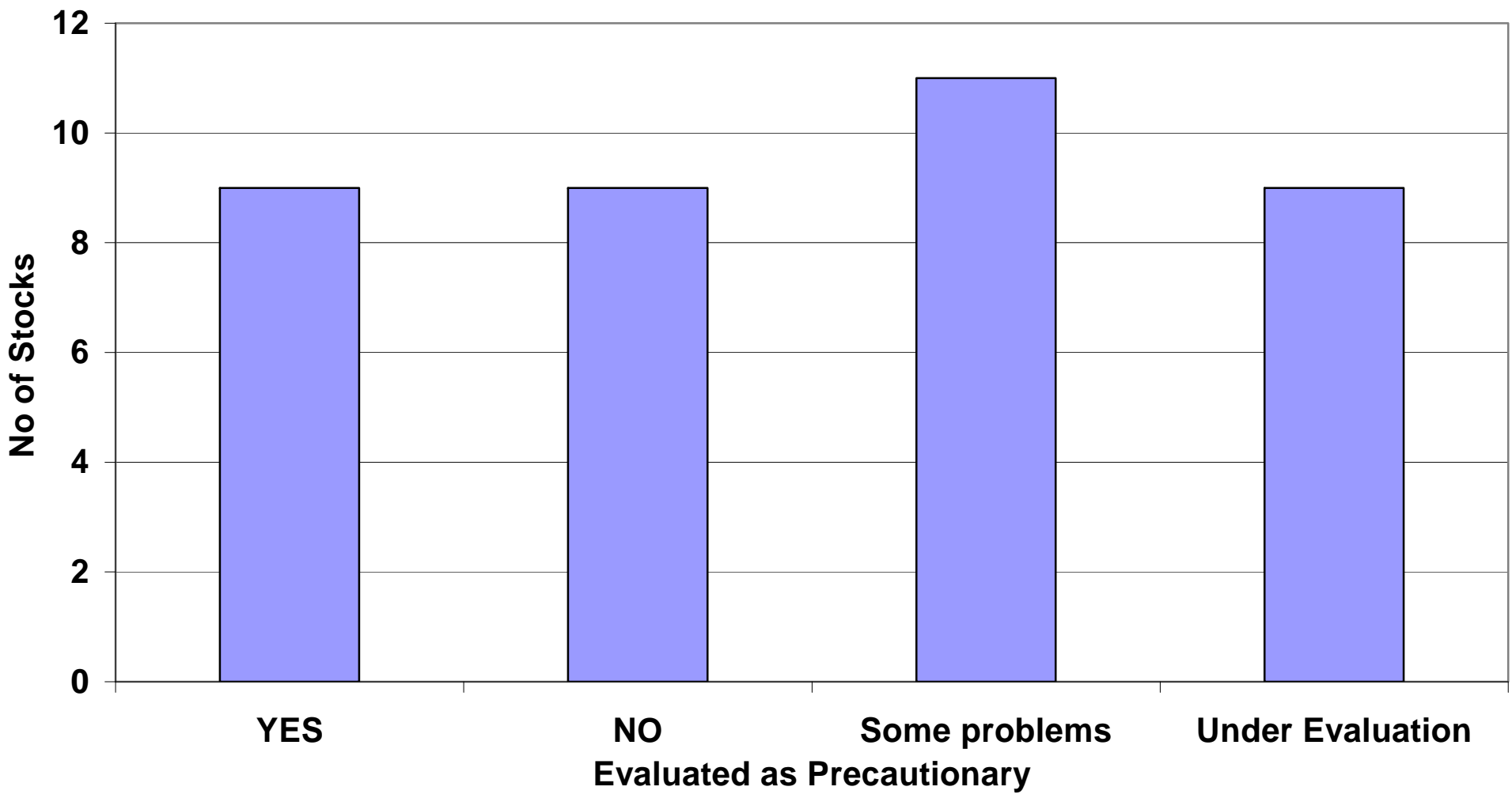
- i.e., below Blim less than 5% of the time
- e.g., at least 50% probability of
recovery above Bpa by 2015

What about yield objectives (mean and variance)?

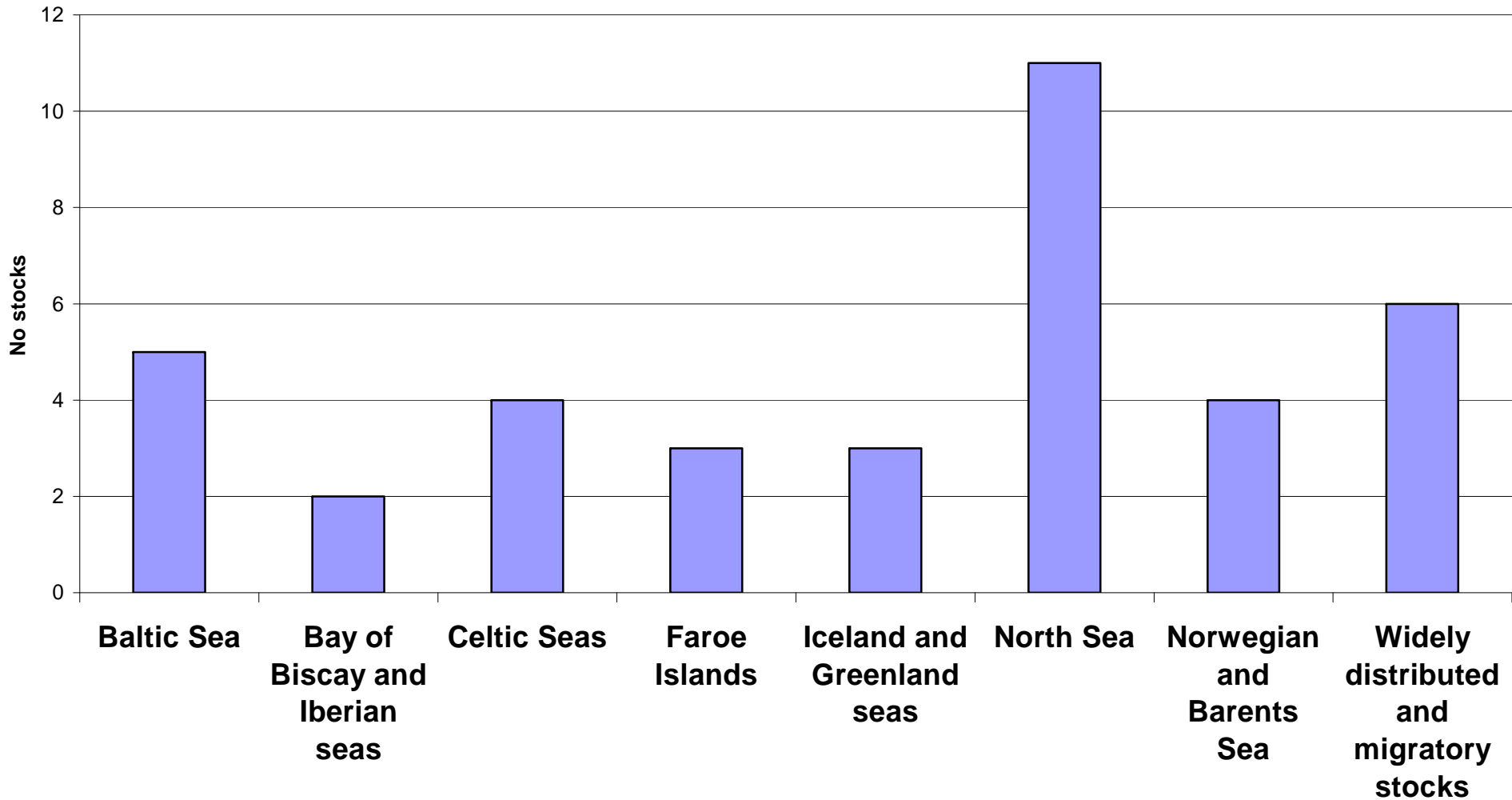
Economic objectives?

Social constraints?

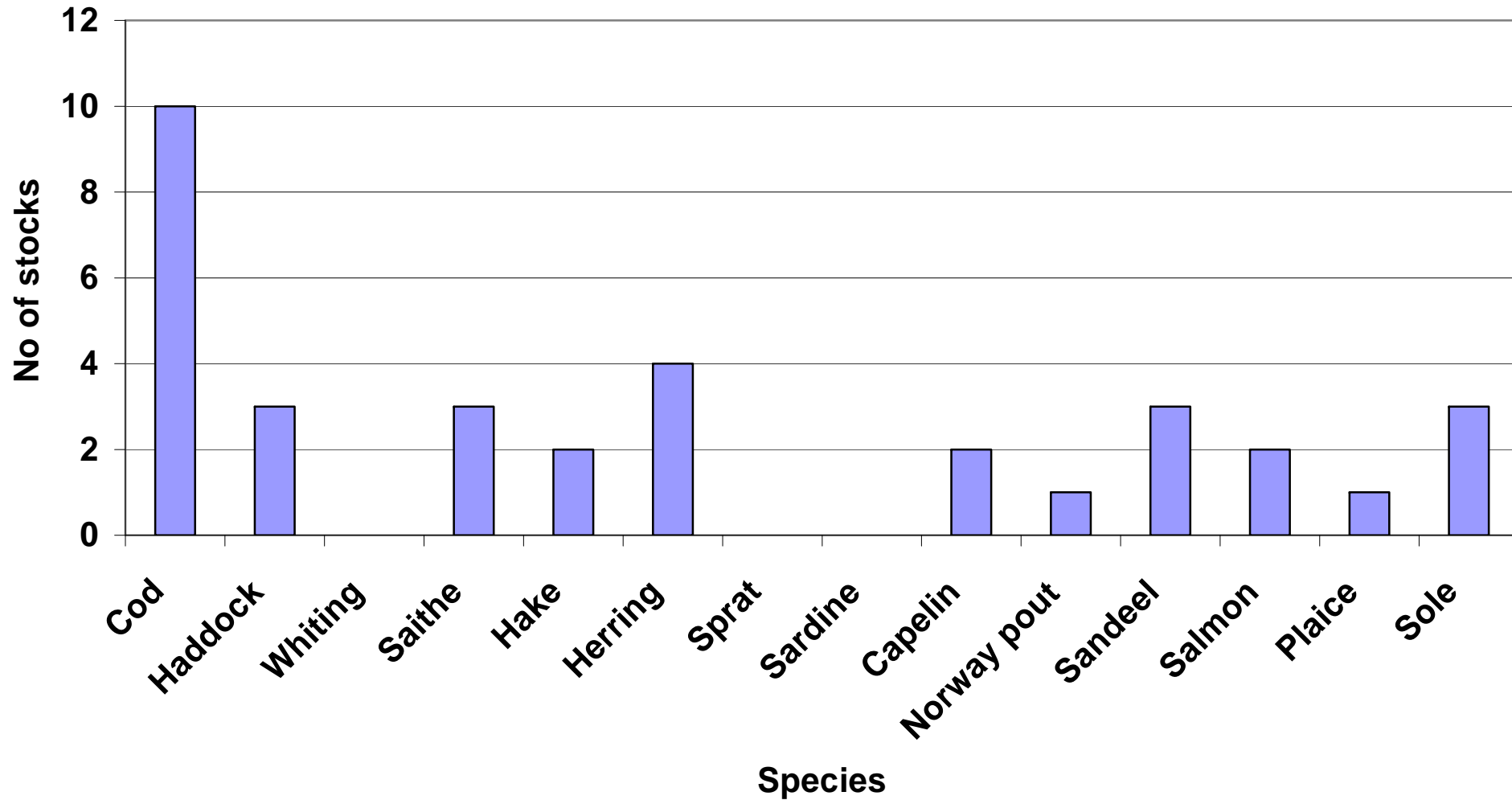
**Management Plan's considered
38 stocks considered or under evaluation**



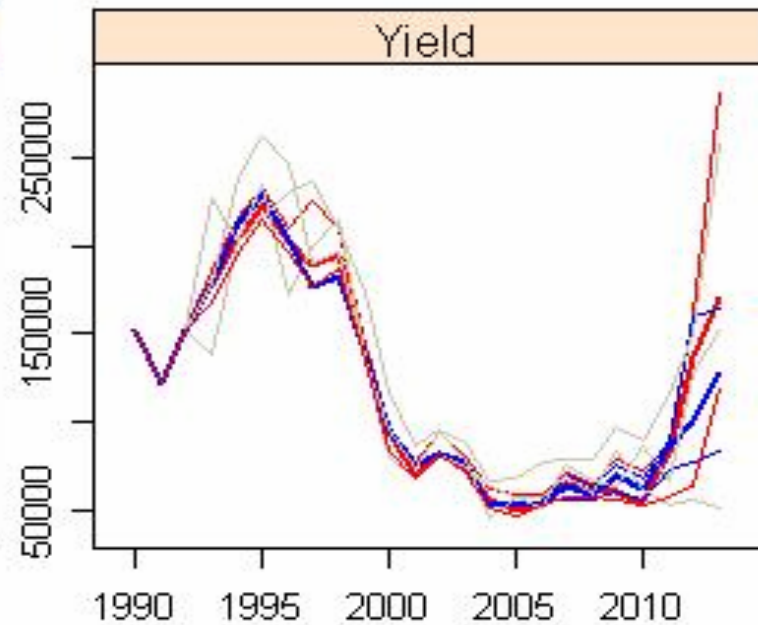
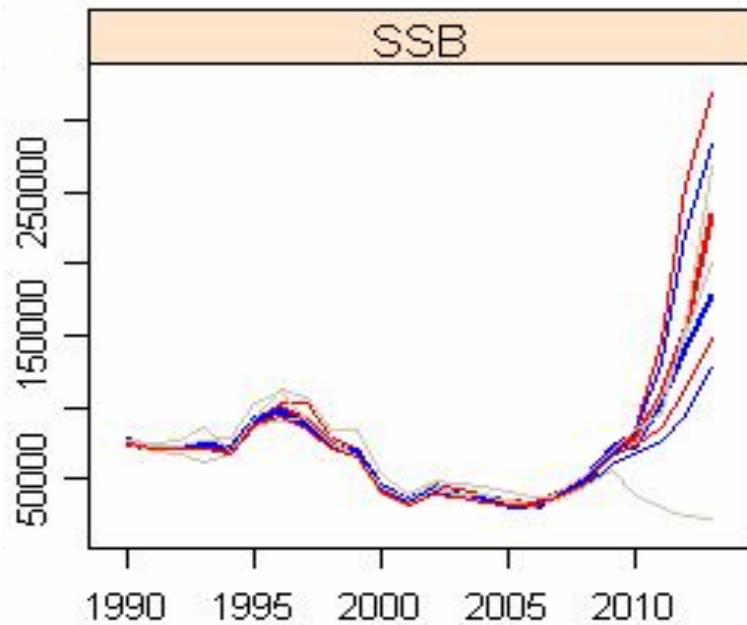
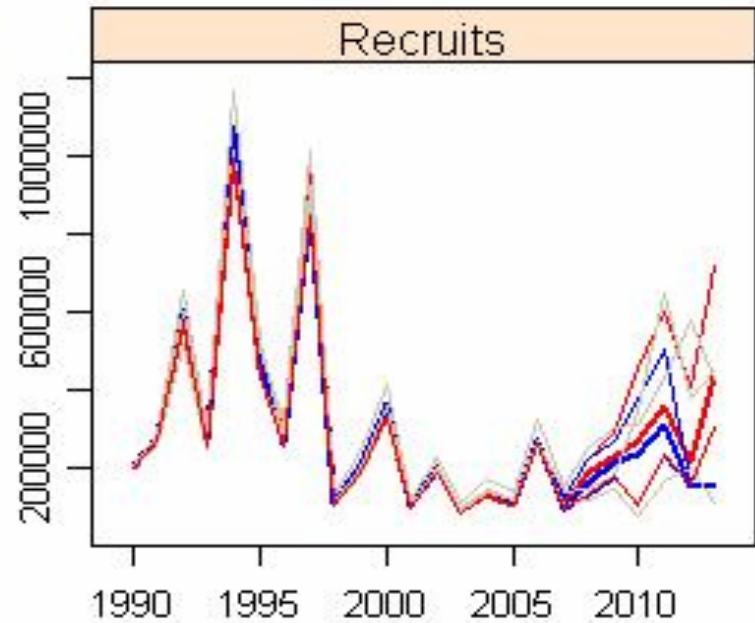
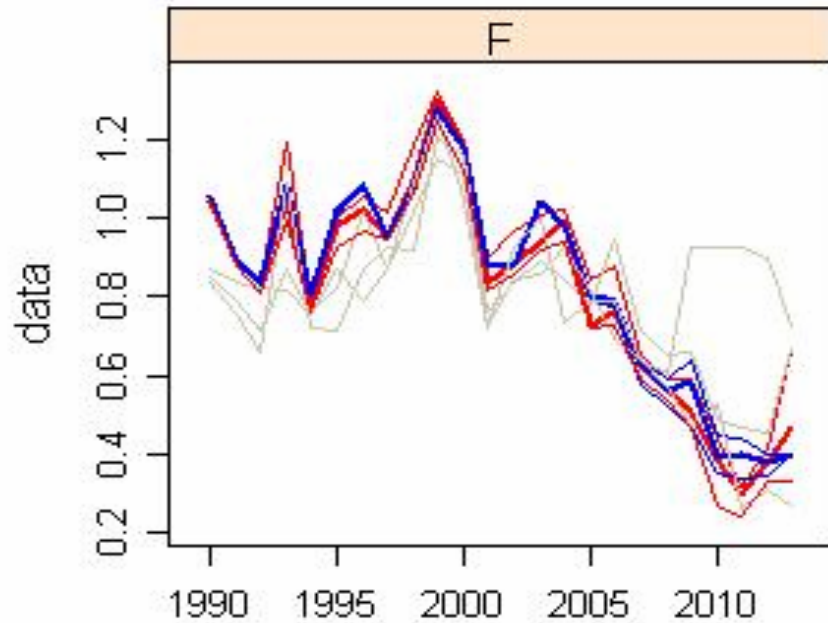
Management Plans - Evaluated or under Evaluation



Management plans - Evaluated or Evaluation under preparation



North Sea Cod





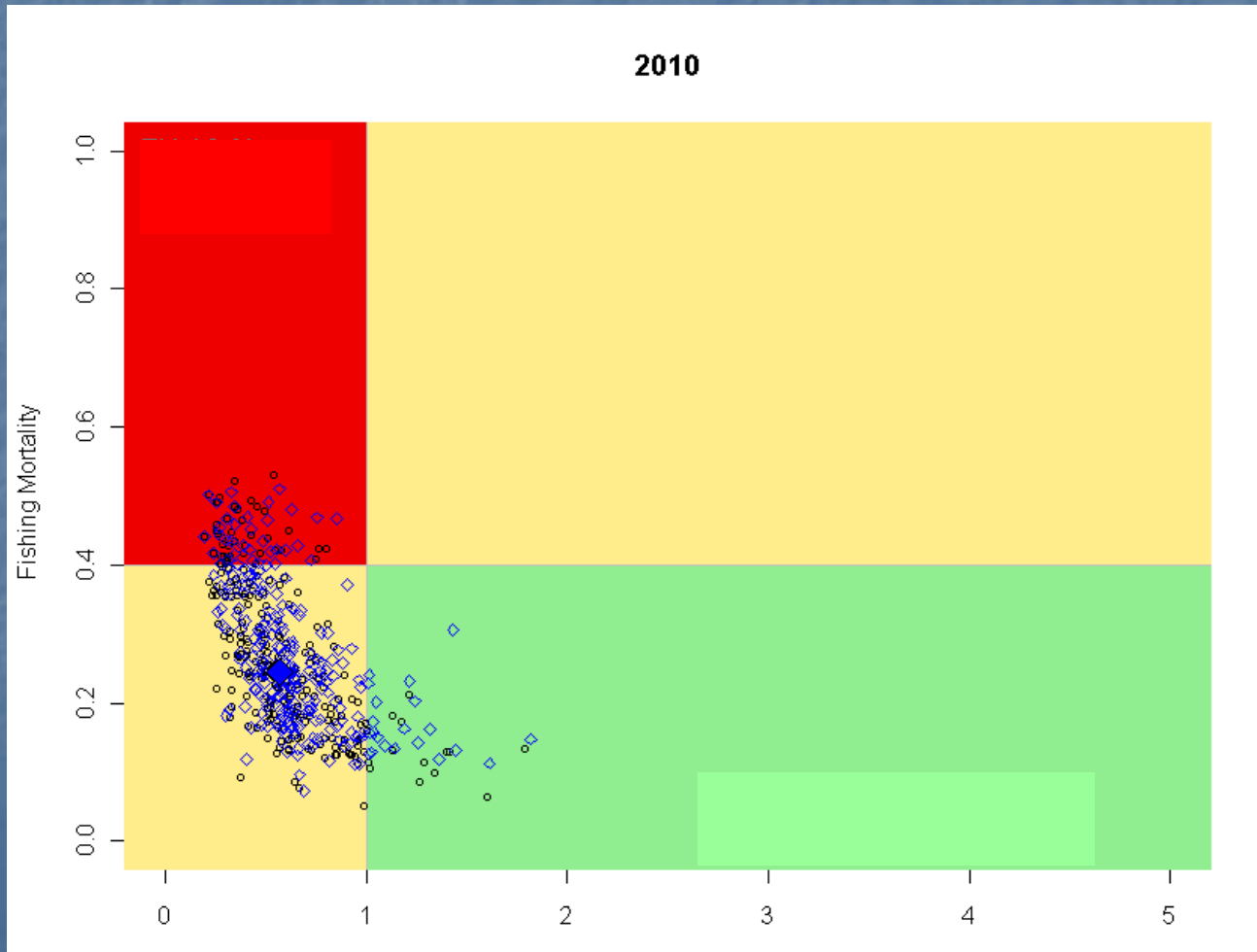
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Some Results





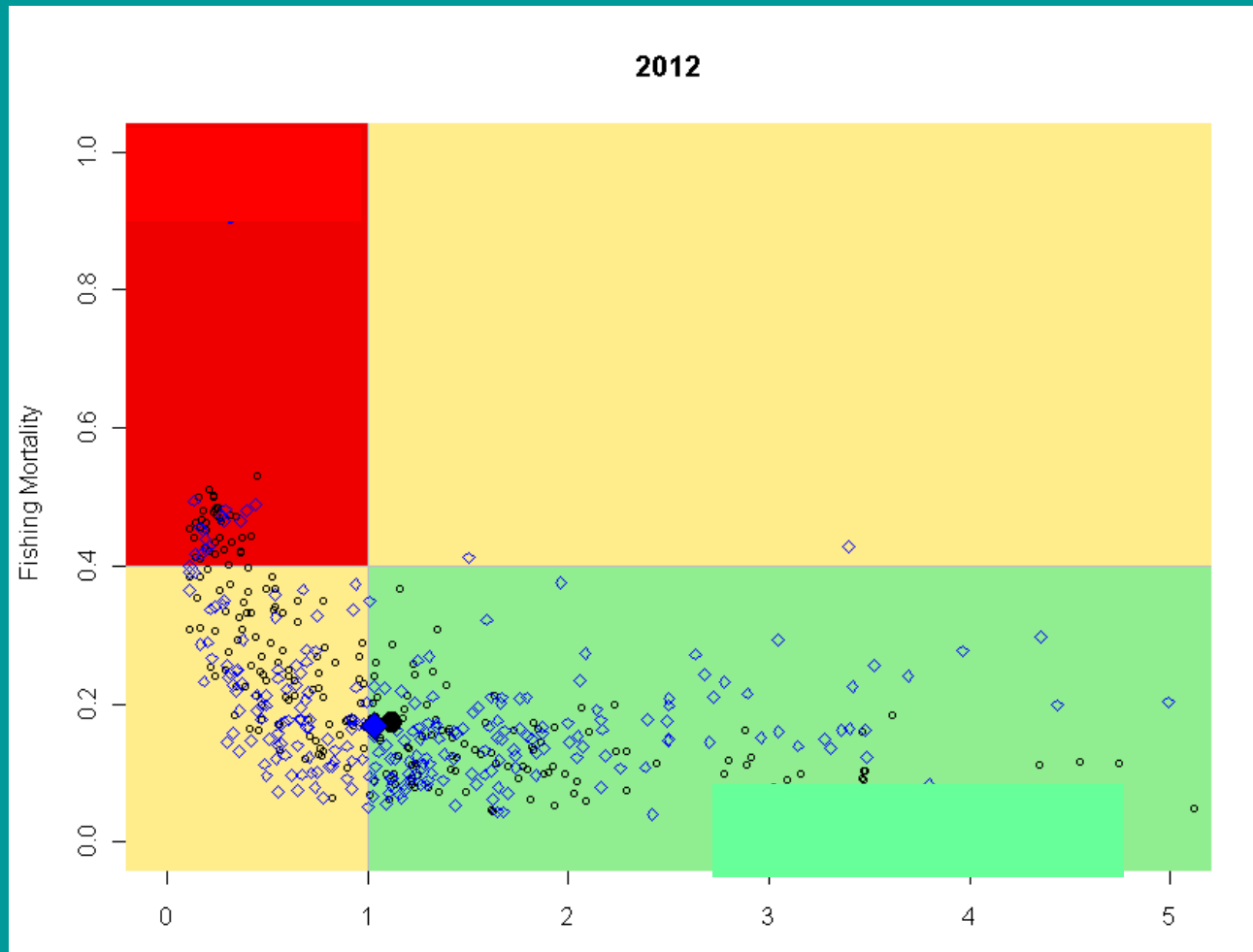
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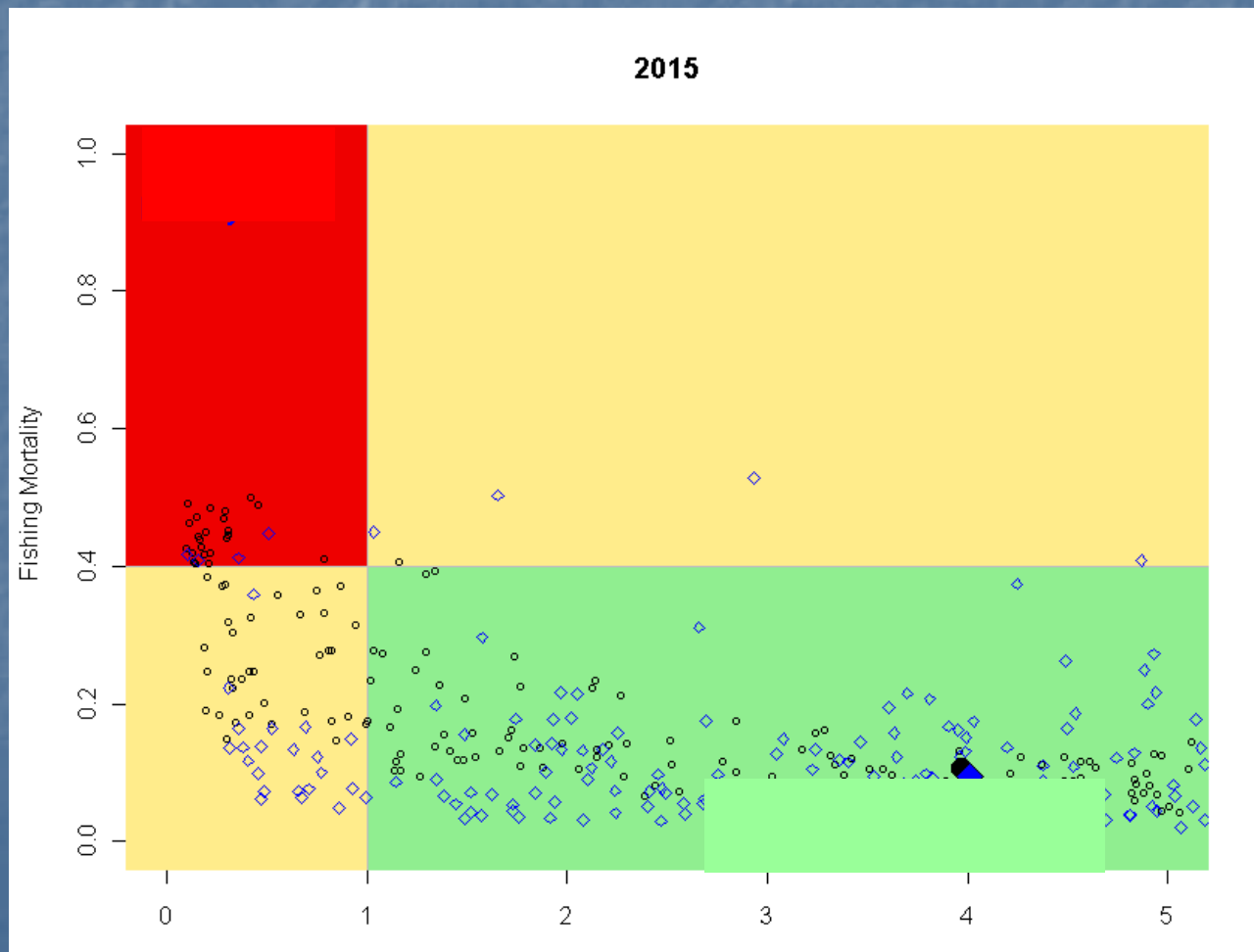
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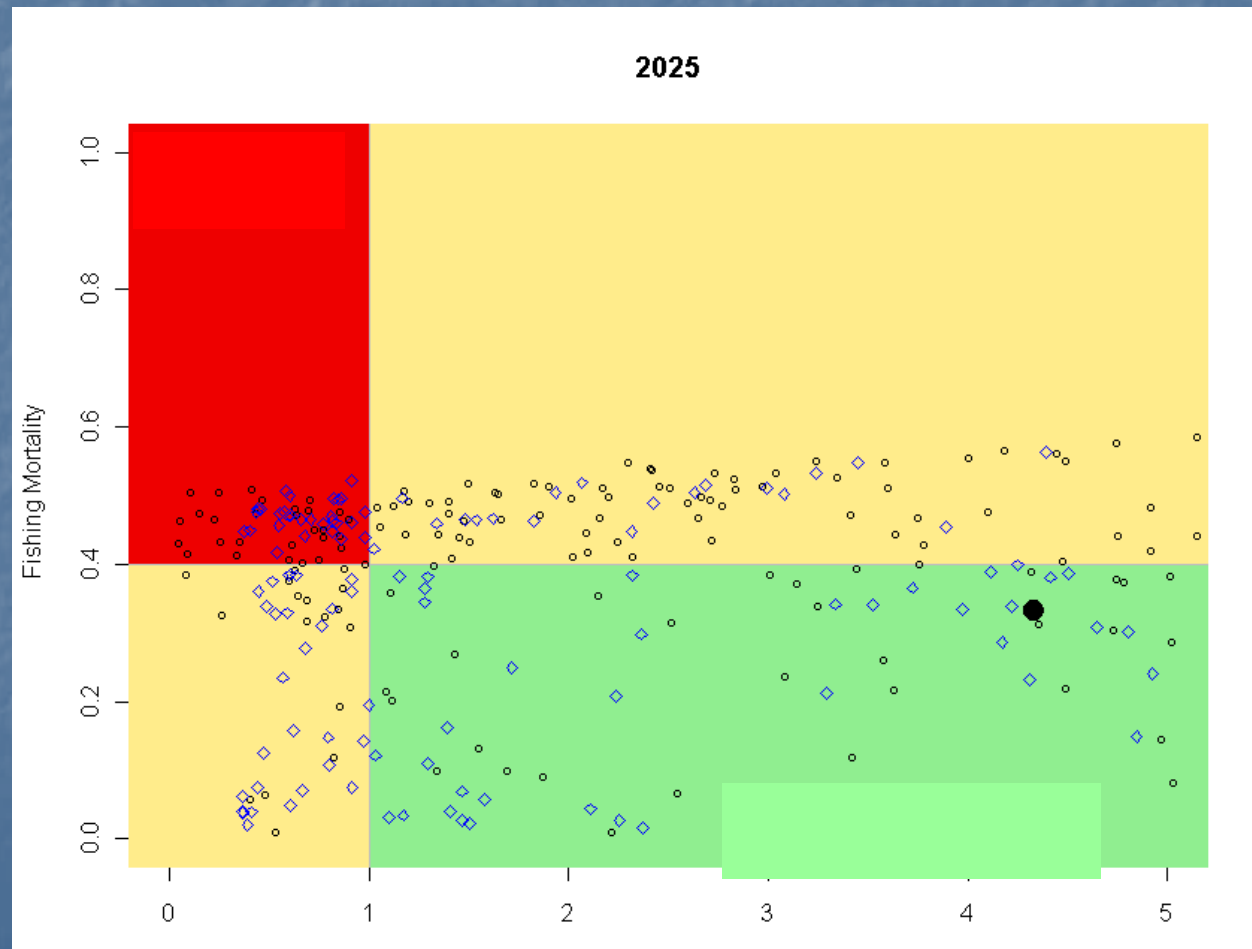
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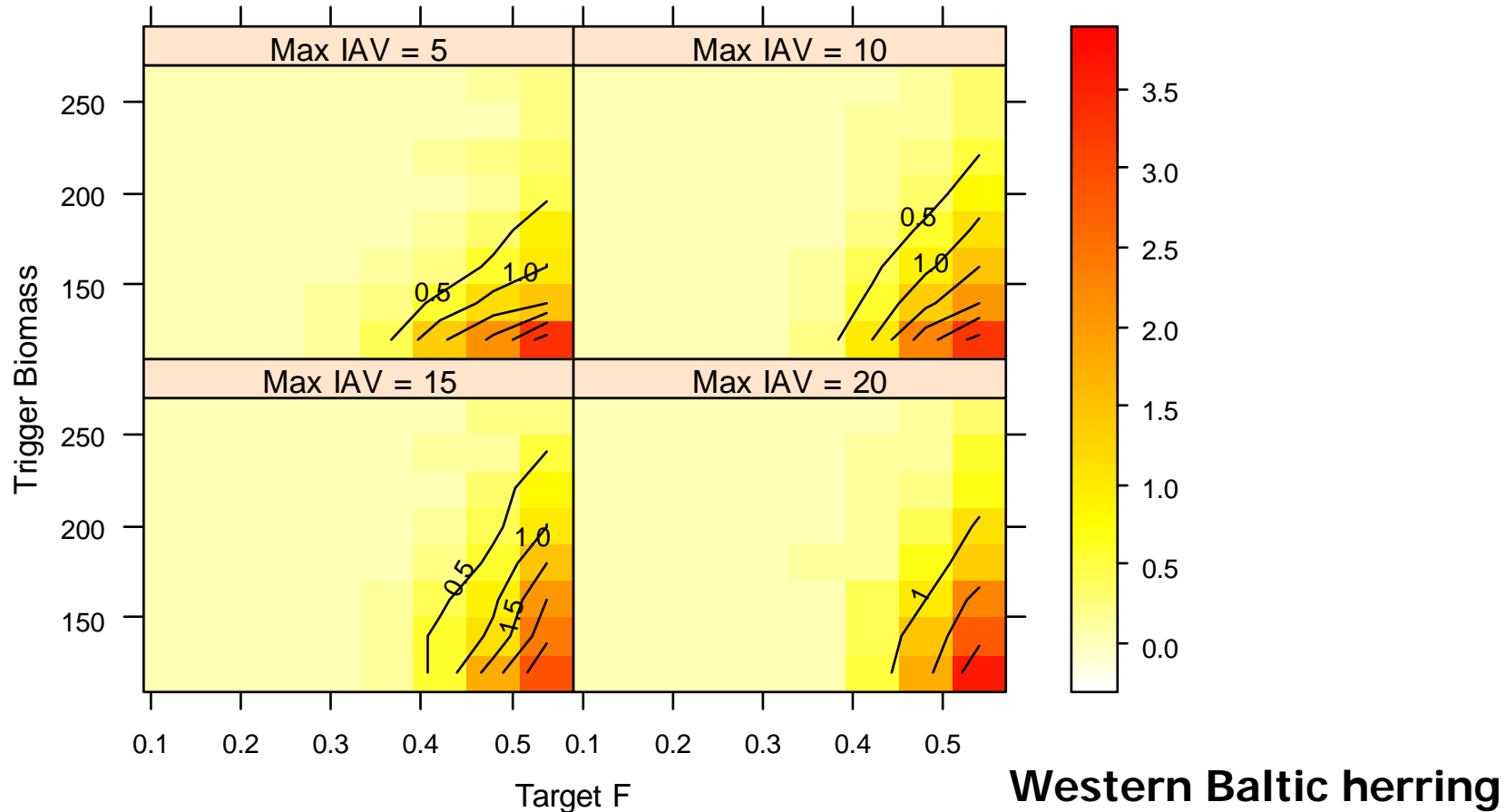


Risk to Blim

High recruitment and low assessment error

Interannual Variation of TAC (%IAV)

Percentage Risk to Blim



Process Issues



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At what point should Scientists (i.e., ICES) engage?

- At the beginning or the end?

Who should lead the process?

- Scientists (e.g., ICES for NE mackerel)?
- Stakeholders (e.g., PRAC for W. horse mackerel)
- Managers (Commission for many stocks)

Scope

- HCR
- Ecosystem plan

Guidance or law?



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