

OPERATIONAL PROBLEMS AND DIFFICULTIES ENCOUNTERED IN THE PRODUCTION OF ADVICE FOR FISHERIES MANAGEMENT

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Structure

- Necessarily brief
- Context – management system
- Key stages in assessment and advisory process
- Four key problem areas
- Way forward – a suggestion

Context for Operational problems

- Traditional and on-going requirements for annual TACs – successful?
- Situation changing – relatively recent initiatives
 - Recovery plans
 - Long-term management plans following recovery plans (for some stocks)
 - Ecosystem approach
- New initiatives produce different demands for advice

Key stages in assessment and advisory process

- Data collection and collation
- Assessment and forecast
- Review and production of advice
- Formulation of management proposals
- Decision taking
- *Science is involved in all except Decision taking*

Key problem areas

- DATA and ASSESSMENT
- COMMUNICATION
- TRANSPARENCY
- OBJECTIVES – advice depends on what we are trying to achieve and over what timescale.

1. DATA

- Need to feed a process that requires advice essentially on TAC for next year
- Demands certain type of data mostly by age group of fish –to feed short-term forecast
- Spatial, temporal and fleet specific
- Catch – landings and discards
- Data problems are practical and statistical and produce ESTIMATES i.e. they are not exact – feed into the assessment and advisory process

Assessment stage – dealing with uncertainty (error)

1. **Process error** - natural variation in stock parameters e.g. natural mortality, recruitment, weight at age etc.
2. **Measurement error** – due to collection of population information
3. **Estimation error** – derived when trying to model the dynamic processes
4. **Model error** – model used will not capture the true dynamic processes
5. **Implementation error** – management not perfect

Reliance on Recruitment estimates

- Most stocks still overexploited
- Age structure truncated
- Most of population is young fish
- Catch forecast sensitive to predicted recruitment

2. Communication

- Scientists need to communicate results and uncertainty to other stakeholders.
- Maintain credibility against different stakeholder perceptions and agendas.
- To avoid “Scientists get it wrong again”
- Perception coloured by organisational or individual interests

3. Transparency

- History was that science was undertaken behind closed doors.
- Situation much changed but some scope for further progress
- Transparency 2-way: Science has begun to open doors to other stakeholders: possibly not reciprocated to same extent – not yet anyway

4. Objectives

- Management objectives often not explicit
- General objective of sustainable fisheries confounded by short-term TACs
- BUT how to achieve it and over what timescale?
- What do managers want to achieve in the interim?
- Without interim objectives scientists have to make a judgement on objectives – scientific objective may not necessarily be appropriate.
- Science advice mainly biological or population based. Management objective are policy - economic and/or social

Way forward

- Need to move from short-term i.e. annual TAC - setting
- More L-T management plans based on targets with agreed HCRs to achieve interim objectives
- Interim objectives should be discussed and agreed by fishery managers
- Scientific Evaluation of MPs against agreed objectives
- Science then can advise on the possibility of achieving those objectives from biological, social and economic perspective.

Way forward

- Enhance communication, transparency, trust and accountability through:
- Greater involvement of ALL stakeholders in all stages of the process from data to decision taking
- RACs potentially have a major role to play – need help of science to evaluate potential proposals and ideas.

Thank you for your attention