Assessment for All (a4a)

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Ernesto Jardim
Iago Mosqueira
Chato Osio
Colin Milar

Setting the scene

- DCF 2009 introduced the concept of “concurrent sampling” for metier related variables: sampling all or a predefined assemblage of species, simultaneously in a vessel's catches or landings (2008/949/EC, Annex, Chapter I, 1.b)
- Sampling must be performed in order to evaluate the quarterly length distribution of species in the catches, and the quarterly volume of discards (B1.1.1).

Setting the scene in numbers

- In 2010 DCF costs 57m €
- Biological parameters (growth & reproduction) are being collected for 250+ stocks in waters where European fleets operate.
- The DCF reports make it difficult to evaluate the number of species each MS is sampling.

So what ? (Miles *dixit*)

- European fisheries scientists will face the challenge of assessing 250+ stocks for which:

Table 1 – Quality *ad hoc* description of information provided in each variable by source (1=fair, 2=good, 3=excellent).

Source	Time	Space	Volume (L,D,C)		Effort	Index of abundance		Biology	
			weight	length		weight	length	growth	reproduction
On-auction	W	ICES	3	3	2	1	2	1	1
On-board	Q	latlon	3	3	3	2	1	2	2
Surveys	Y	latlon		3		3	3	3	3
log-books	D	Rect	1		2	1			
VMS	D	latlon			3	2			

Setting the scene worldwide

- US law requires all federal fisheries to come up with approaches for calculating annual catch limits, including appropriate buffers to account for scientific and management uncertainties (Sampson, pers.comm.).
- Beddington et.al (2007) show that these intermediate data stocks that are not being scientifically assessed make up for 30% of stocks in the USA, 78% in New Zealand, 48% in Australia, 61% in the North-East Atlantic.
- Roa (pers.comm.) states in Chile 65% of stocks are not assessed.

Problem

Dealing with the assessment of these stocks will require a change in mindset !!

Opportunities

- Stock assessment as a data generating engine
- Massive data analysis
- Multi* analysis
- Advise for more species
- Common stock assessment methodology
- Comparative advise analysis
- Direct input to policies like MSFD, MSP, IMP, CFP, etc
- Contribute to Ecossystem Based Management
- ...

a4a initiative

The initiative aims to:

(a) develop an assessment method targeting stocks that have a reduced knowledge base on biology and moderate time series on exploitation and abundance;

(b) trigger the discussion about the problem of massive stock assessment.

Side objective:

- capacity building

a4a initiative

Coordination by JRC, Ernesto Jardim:

- A number of scientists (33) showed interest on the initiative, coming from distinct regions: South Africa, USA, Canada, Australia, New Zealand and Europe.
- As well as a number of International Organizations showed interest like ICES, ICCAT, FAO.
- Efforts are being done to coordinate with all and avoid replication of work.

a4a kick-off meeting
(29/02-02/03 @ JRC)

Brainstorm

Consolidate ideas

Design experiment

a4a kick-off meeting

Leire Ibaibarriaga (AZTI, Spain)

Jose de Oliveira (CEFAS, UK)

Finlay Scott (CEFAS, UK)

Andrew Cooper (SMU, Canada)

Ruben Roa (SAU, South Arabia)

Einer Nielsen (DTU, Denmark)

Gary Carvalho (Bangor, UK)

Manuela Azevedo (IPIMAR, Portugal)

Chato Osio (JRC, EC)

Iago Mosqueira (JRC, EC)

Ernesto Jardim (JRC, EC)

Jann Martinsohn (JRC, EC)

a4a kick-off meeting results

What is a "moderate data stock"

- Exploitation
  - Nominal effort
  - Volume (L, D)
  - Length frequencies
- Biology
  - Information based knife edge mat ogive (minimum)
  - Indications for growth model (minimum)
  - L-W
- Index of abundance

a4a kick-off meeting results

Genetics

Biomass model/stock assessment model

- Model to be applied rapidly to a wide range of situations
- Results must be used for advise on a quantitative basis

Assessment/advise methodology

Simulation experiment

Operationalization