



MARITIME FORUM

Study 2007-07 lot 5: Survey of existing bio-economic models

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This report presents a review of the existing operating bioeconomic models within the EU. In particular the following models have been reviewed; EIAA, TEMAS, MOSES, BEMMFISH, BIRDMOD (including Aladym), MEFISTO, AHF, EMMFID, SRRMCF, COBAS, COCORP, ECONMULT and FLR (EFIMAS).

Why this study?

The Commission is seeking to assess different management options with a view to improving the overall effectiveness of fisheries management. Bio-economic models can play a key role in this. Under the scope of different research projects, several models have been developed to evaluate management options. So far, these models have not clearly addressed in terms of usability for the assessment of a range of management issues. Therefore, it is necessary to explicitly address the advantages and limitations of each model.

Goals

1. Presenting a review of the existing operating bio-economic models within the EU.
2. Giving particular attention to the tasks the models can perform within the STECF.

Results

A review framework has been created to facilitate a quick comparison and selection between models. The framework was based on the following model characteristics:

- Objectives and dimensions
- Model structure
- Type of advice and time range
- Implementation details. Model language and data requirements. In particular requirements of stocks assessments and also analyzed data requirements in relation to the data provided by DCR
- Produced advice
- Model use and full list of references
- Institutes and key personnel

In addition a summary table has been produced with the STECF tasks for which each model could produce advice.

Structured under this review framework, the report gives the reader a reference document which summarizes the main characteristics of the models indicated above.

The models show a high degree of diversity in terms of the rationale behind the model (simulation versus optimization models, input versus output driven), their scope (economic versus bio-economic models, focus on a concrete problem versus general economic evaluation), specificity (national fleets versus EU wide analysis and Atlantic versus Mediterranean). Also the design and software implementation and the quantity of data input needed across the models is quite heterogeneous. E.g. FLR and EIAA can be run with new data framework though many models will require substantial conditioning.

Reference

Full title	Survey of existing bioeconomic models
Organisations	AZTI-Tecnalia, CEFAS, DTU-Aqua, FOI, Wageningen IMARES, IREPA and LEI.
Full report	http://ec.europa.eu/fisheries/publications/studies/bioeconomic_models_en.pdf [1]

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