

EU SC05 project: “Multispecies Fisheries Assessment for NAFO”

European Maritime and Fisheries Fund
Framework Programme UE EMFF/2016/008



Objectives of SC 05

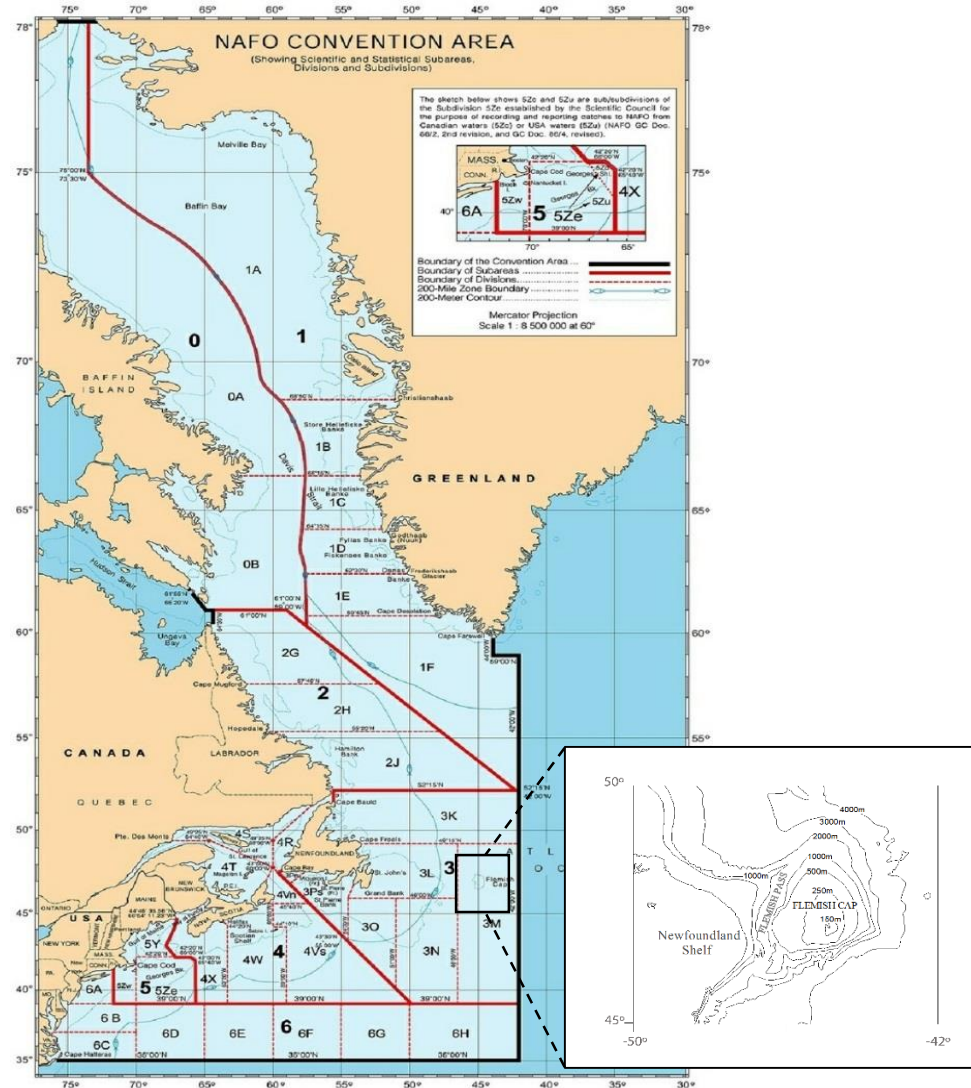
- Providing a **comprehensive overview** on how multispecies assessments would fit into the scientific and decision-making processes within NAFO
- Develop **specific analyses and techniques** on a case study, the Flemish Cap, that result in potential practical implementations for the multispecies approach.
- Identifying **future steps and research activities** to progress in the implementation of the multispecies assessment in the Flemish Cap, and extensively in the area NAFO.

Project tasks

Overview

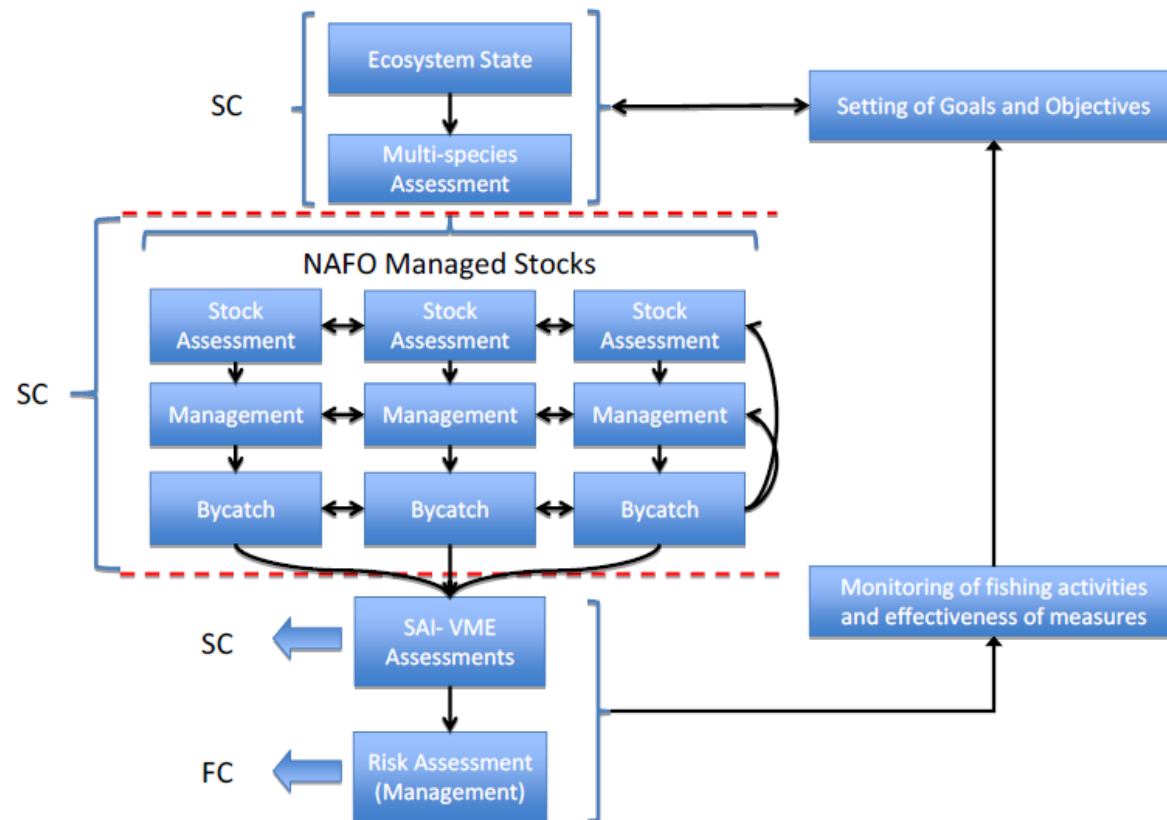
- **Task 1:** Setting the context
 - A general overview of the multispecies approach worldwide
 - Description of the biological, ecological, fishery and scientific features of the Flemish Cap.
- **Task 2:** Updating GadCap
 - An updated version of the multispecies model GadCap: a gadget cod, redfish and shrimp multispecies model in the Flemish Cap.
- **Task 3:** First approach to implement multispecies assessment
 - Explore the provision of scientific advice for a multispecies approach in the Flemish Cap
 - Use of multispecies natural mortality estimates in stock assessment
 - Multispecies MSE framework and potential new multispecies HCRs.
- **Task 4:** Economic trade-offs
 - First analysis of the socio/economic implications
 - Available techniques and models needed to assess the trade-offs
- **Task 5:** Dissemination to scientists and stakeholders
 - Discussion and interaction between scientists and other stakeholders: workshop.
 - Presentation and integration of results in the NAFO-WGESAs and NAFO Scientific Council meetings
- **Task 6:** Further research
 - Identify future necessary steps and research activities

Geographical scope



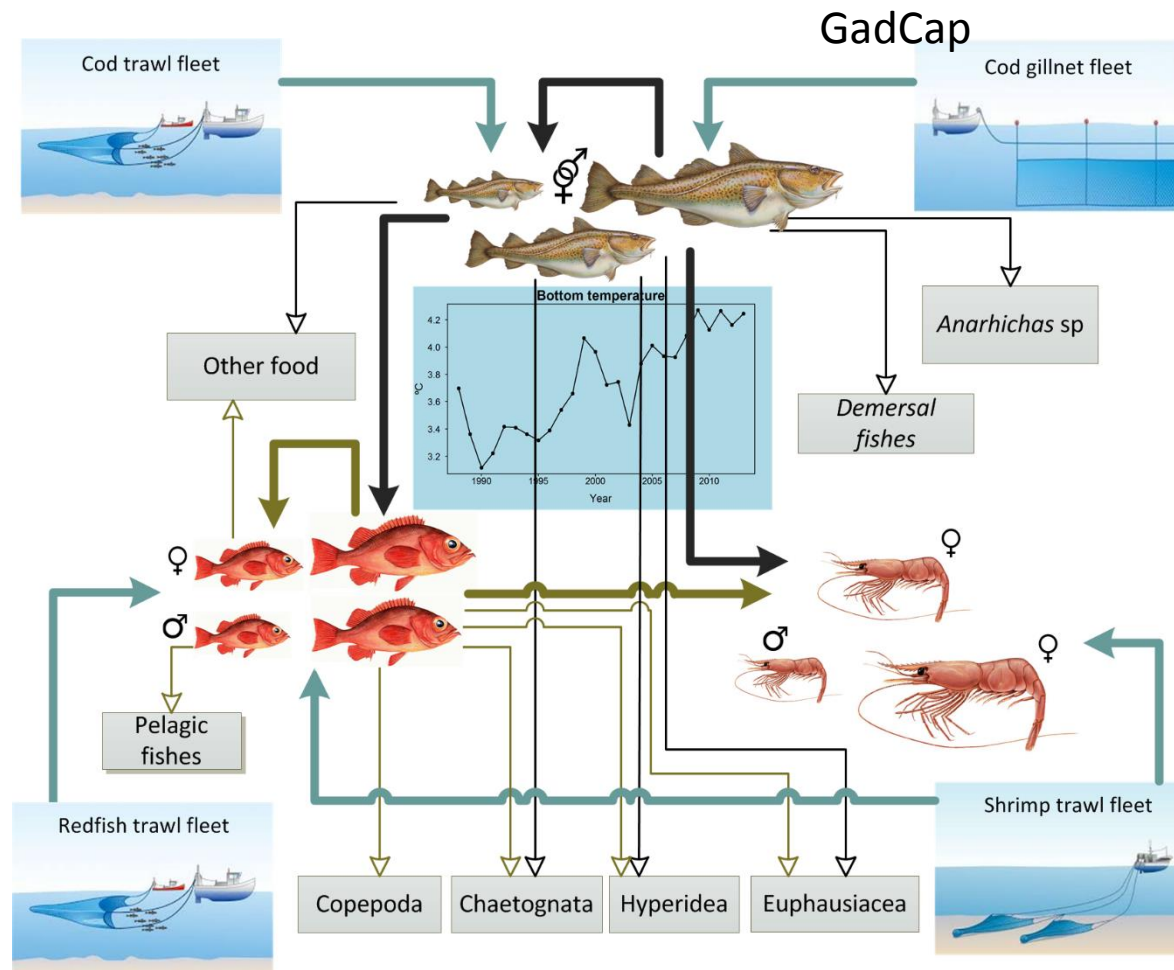
Science and management scope

NAFO roadmap for an EAF WGESA



Task 2: Update of multispecies model GadCap

Pérez-Rodríguez, A., Howell, D., Casas, J.M., Saborido-Rey, F., and Ávila-de Melo, A. 2017. *Dynamic of the Flemish Cap commercial stocks: use of a gadget multispecies model to determine the relevance and synergies between predation, recruitment and fishing.* Can. J. Fish. Aquat. Sci. 74: 582-597



Task 3 – Application of Multispecies Model in Stock Assessment in the Flemish Cap

Methods & Activities

Subtask 3.2 Explore multispecies reference points and HCRs

- Define **reference points and HCRs** considering or not the trade-offs and interdependency between cod, redfish and shrimp in the Flemish Cap: **single & multi species HCRs**
- Close communication with the **NAFO Designated Experts** in charge of the Flemish Cap stock assessments.

Subtask 3.2 Multispecies Management Strategy Evaluation

- Assemblage of a Multispecies MSE (msMSE): Institute of Marine Research (Bergen, Norway) and Joint Research Centre (Ispra, Italy).
- Assessment of ecological risks (precautionary approach) and yield.

Task 4 – Evaluation Of Economic Implications Of Trade-offs Methods & Activities

Subtask 4.2 Trade-offs between different fleet-sectors within and among countries (special interest in the EU countries)

- Economic evaluation of the arising trade-offs of the multi-species HCRs
- Results including uncertainty estimates derived from the modelling output coming from tasks 2 and 3

Task 5 – Discussion and Interaction between Scientists and other Stakeholders

Methods & Activities

Subtask 5.1 Organization of a workshop to present the results of the study to main stakeholders and administrations in the EU

- A **two day workshop** with the main stakeholders from the fishing industry, EU administrations and leaders of Tasks 3, 4 and 5
- Promote a **constructive discussion** around the topic
- **Create awareness** of this relatively new approach
- Optimize the **quality and quantity of feedback from stakeholders**. Use previous experiences in the presentation and discussion with stakeholders (Kempf et al, 2016)

Subtask 5.2 Integration of results on the NAFO Roadmap for the development of an ecosystem approach to fisheries management

- Integrate the results of this project into the roadmap for the EAFM in NAFO.

Workplan

	2017						2018												2019		
	Jan	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Tasks	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21
Task 0 - Project management																					
Task 1 - Setting the context																					
Task 2 - Update and improvement of GadCap multispecies model																					
Task 3 - Application of multispecies model in stock assessment in the Flemish Cap																					
Task 4 - Evaluation of economic implications of trade-offs																					
Task 5 - Discussion and interaction between scientists and other stakeholders																					
Task 6 - Future research directions and needs																					

- No more time to include new information nor doing extra work
- Future projects are expected

Data used in current economic calculations

- Fleet activity in NAFO: VMS database
- Economic data



JRC SCIENCE FOR POLICY REPORT

Scientific, Technical and Economic
Committee for Fisheries (STECF)

The 2018 Annual Economic
Report on the EU Fishing Fleet
(STECF 18-07)

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2018



Joint
Research
Centre

EUR 28359 EN

Document with data needs for economic calculations

SC05. Task 4 Logic of the analysis and data collection

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Return on Investment (ROI).....	8
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Fishing and economic data needs

Operational data for NAFO 3M Fleet						Units	
Vessel id						ID	Name or any other identification
Country						Name	
Fishing Gear						Name	
Length						Number	
GTs						Number	
Year	2013	2014	2015	2016	2017	Units	
Age						Number	Age of the vessel
Fishing days 3M						days/year	Fishing days in area 3M in a year
Fishing days Total						days/year	Total fishing days in a year of the vessel
Crew members						Number	Number of crewmembers in the fishing vessel
Income from Fishing						Euros/year	Total value of the landings in a year
Other Income						Euros/year	Other income coming from e.g. selling fishing rights
Fuel use						liters/year	Fuel consumption in a year in litres or cubic meters or in tonnes
Fuel Price						Euros/liter	Fuel price in the same units as above
Fuel cost						Euros/year	Expenditure in fuel
Salaries						Euros/year	Salaries paid to the crew, including the owner of the vessel
Social security costs						Euros/year	Social security expenditures
Other variable costs						Euros/year	Baits, oil, ice, fees,....
Fixed costs						Euros/year	repairs, maintenance, insurance fee
Investment						Euros/year	Investment in the vessel other than regular maintenance
Subsidies						Euros/year	Subsidies received
Taxes						Euros/year	Taxes paid
Insured value						Euros/year	Value for which the vessel has been insured.

Fishing and economic data needs

Species landed							
Species	Year	2013	2014	2015	2016	2017	Units
Cod	Landings						Tonnes
	Price						Euros/ton
Redfish	Landings						Tonnes
	Price						Euros/ton
Greenland halibut	Landings						Tonnes
	Price						Euros/ton
Plaice	Landings						Tonnes
	Price						Euros/ton
Witch flounder	Landings						Tonnes
	Price						Euros/ton
Roughhead gren.	Landings						Tonnes
	Price						Euros/ton
Haddock	Landings						Tonnes
	Price						Euros/ton
Halibut	Landings						Tonnes
	Price						Euros/ton
Roundnose gren.	Landings						Tonnes
	Price						Euros/ton
Rays	Landings						Tonnes
	Price						Euros/ton
Others	Landings						Tonnes
	Price						Euros/ton

Thanks for you attention

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