



# SCIENTIFIC ADVICE MECHANISM (SAM)

## ***Food from the Oceans***

*How can more food and biomass be obtained from the oceans in a way that does not deprive future generations of their benefits?*

## **SAM Scientific Opinion**

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**INDEPENDENT  
SCIENTIFIC ADVICE FOR  
POLICY MAKING**

Research and  
Innovation

SEARICA - European Parliament  
Europe, the Ocean & Feeding the  
World. 20 March 2018, Brussels



## REQUEST FOR ADVICE



**From the College  
of  
European  
Commissioners**

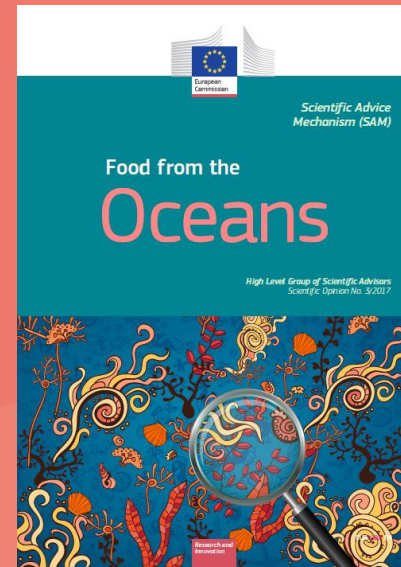


**Chief Scientific  
Advisors**

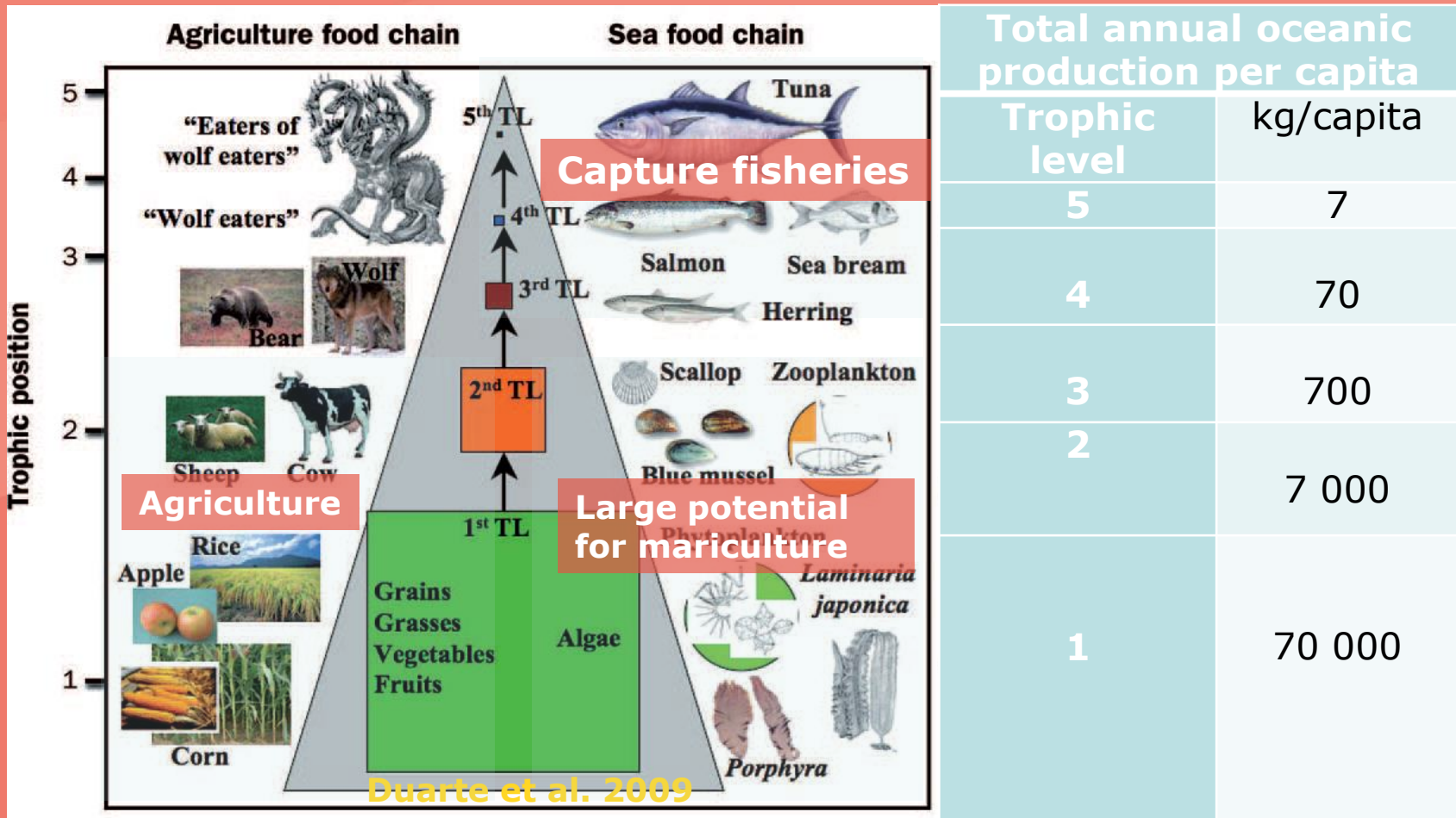


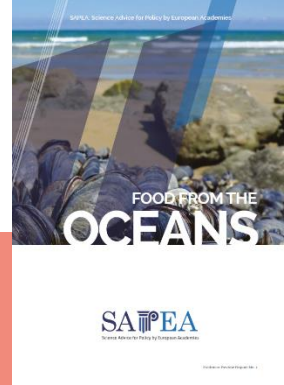
## *Food from the Oceans Question from the Commission (Cioner, Vella):*

How can more food and biomass be obtained from the oceans in a way that does not deprive future generations of their benefits?



# More food – the potential is primarily at the lowest trophic levels





## *The Biological Potential*

### **Food & Feed:**

- *3-4 fold increase feasible in the next 20-30 years*

### **Food:**

- *Mariculture increase from 56 + 160 to 216 Mt*
  - 100 - filter feeders, 50 algae, 10 marine carnivores
- *Wild-capture increase from 82 + 30 to 112 Mt*
  - 20 - improved management; 10 - more selective fishing
  - long time scale based on history to date
- *Redirect reduction fisheries to food + 15 Mt*

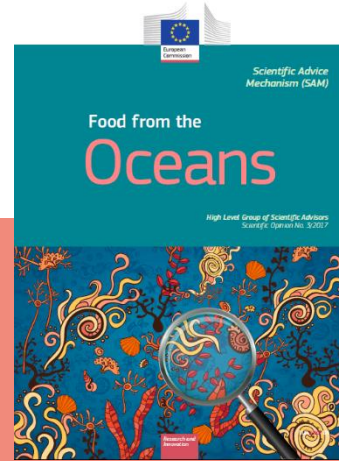
### **Feed:**

- *Zooplankton & mesopelagics - precautionary harvest of 20 Mt*
- *>50 Mt from macroalgae culture (& filter feeders)*
- *30 Mt from discards and processing waste*



## *Socio-economic considerations*

- *9 billion people in 2050 need 60% more food*
- *Minimise not avoid environmental impact*
- *Huge ocean potential can & should account for more*
- *Unique nutritional properties of seafood*
- *Higher ecological efficiency of marine biomass production*
- *Governance change – big opportunity to increase harvest*
  - Balance rights-based management vs. social concerns
  - Social licence needs more stakeholder/ citizen consultation
- *New markets & food from lower trophic levels*
  - improved information and smart eating



# *The SAM Scientific Opinion Five sets of Recommendations*

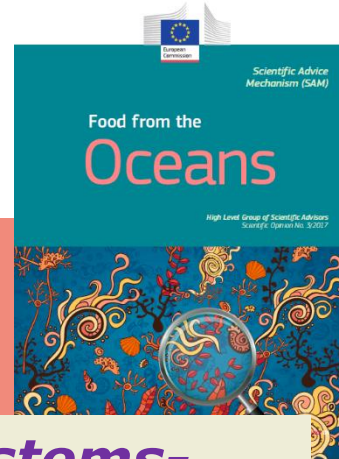
*1. Broad policy agendas*

*2. Mariculture*

*3. Wild-capture*

*4. Facilitating policy change*

*5. Future-proofing policy*



## ***1. Mainstreaming "Food from the Oceans" into systems-level & global policy agendas***

*Mainstream a "food from the ocean" paradigm of responsible culture and capture into broad EU and global systems-level policy agendas – this includes*

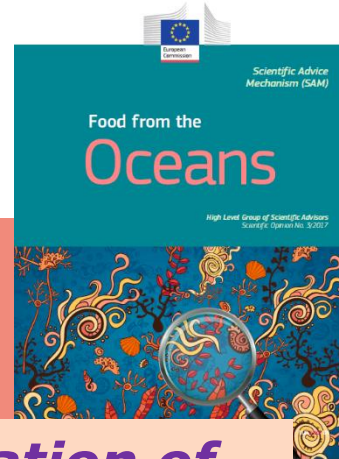
- integrating aspects of EU fisheries and mariculture policy into a food systems framework, and*
- prioritising the food-generating capacity of the ocean in the EU's Integrated Maritime Policy as well as in EU contributions to the European Consensus for Development and to international policy initiatives such as the UN's Agenda 2030*



## ***2. Integrated planning, assessment and informed decision-making for a vibrant mariculture sector***

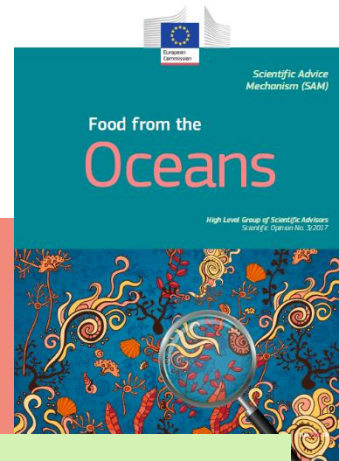
*Take the development of mariculture in Europe to a higher and more strategic level via a comprehensive, concerted policy framework – this includes*

- issuing guidance on the inclusion of mariculture requirements in the implementation of the 2014 EU Directive on Marine Spatial Planning and*
- extending technological cooperation to mariculture under sustainable fisheries partnership agreements (SFPAs) between the EU and southern partner countries.*



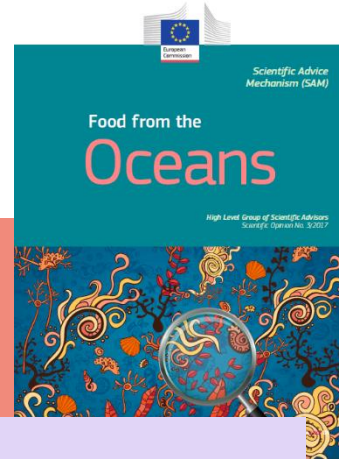
### ***3. Sustaining wild-capture – ensuring implementation of existing regulations and use of best practice***

*Continue to improve implementation and enforcement of existing regulations and use of best practice for sustaining wild capture – broadening as necessary the regulatory toolbox, inter alia, to ensure that all bycatch is recorded and landed, and optimising and fully enforcing the legal rules that facilitate or constrain the harvesting of food from the ocean*



## **4. Facilitating policy change**

*Facilitate policy change – by optimal use of the Open Method of Coordination and initiatives such as the Blue Bioeconomy Forum, to support identification and deployment of best practice, stakeholder dialogue and the acquiring of social license to operate*



## ***5. Future-proofing policy & extending knowledge***

*Future-proof policy and extend knowledge – by further developing the Common Fisheries Policy's science advice system, addressing key knowledge gaps and uncertainties identified in this Opinion and facilitating scientifically-motivated pilot fishing of as-yet unexploited lower trophic-level species*

## *Concluding remarks*

- *Food security & nutrition largely viewed through the lens of agriculture - mariculture often treated marginally*
- *More food production from the ocean may release pressure on agriculture to achieve UN SDGs (end hunger; achieve food security & improved nutrition; protect, restore and promote sustainable use of terrestrial ecosystems)*
- *From a policy vantage point, subsidiarity is compatible with deploying stronger and proportionate effort at EU level to ensure a level playing field and increased attention to mariculture akin to agricultural policy or a broader food policy*
- *A mariculture policy framework should capitalize on on-going efforts (e.g. implementation of the 2013 EU aquaculture strategic guidelines), taking them to a higher strategic priority level*