## OUR MISSION

As the Commission's in-house science service, the Joint Research Centre's mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle.

Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

# Joint Research Centre

The European Commission's in-house science service

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Stimulating innovation
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European Commission

# Fisheries and Aquaculture



# Scientific and Technical support by the Joint Research Centre

Joint Research Centre

## Common Fisheries Policy

The Common Fisheries Policy (CFP) seeks to restore and maintain fish stocks at sustainable levels, put an end to wasteful fishing practices, develop sustainable aquaculture and create new opportunities for jobs and growth in EU coastal areas. Data and scientific advice are essential for the implementation of this major EU policy.



*The JRC undertakes research and provides scientific advice as well as technical support on fisheries management to support the implementation of the Common Fisheries Policy (CFP).*

## Advice for fisheries management

Through the Scientific, Technical and Economic Committee for Fisheries (STECF) for which it also provides the Secretariat, the JRC provides scientific advice to the European Commission on fisheries management under the CFP. The European Commission takes account of such advice, e.g. in proposing annual Total Allowable Catches and quotas and other management measures.

To underpin its advice to the European Commission, the JRC undertakes an extensive research programme on issues that are vital for the implementation of the CFP.

## Data collection

The JRC collates and maintains fishery-dependent data and data on the aquaculture and fish-processing sectors that are transmitted by EU Member States under the Data Collection Framework regulation. Effective use of such data for scientific investigations is ensured through efficient compilation and processing tools developed by the JRC.

## Data dissemination and analysis

The JRC facilitates dissemination of data on the fishing, aquaculture and fish-processing sectors for analysis, through a set of dedicated, web-based tools which are accessible to the public.

https://fishreg.jrc.ec.europa.eu/web/datadissemination/home

## Bio-economic modelling

The JRC promotes the integration of information on fishery dynamics and economics. Such a bio-economic modelling approach contributes to the development, assessment and evaluation of long-term fisheries management plans aimed at providing sustainable fisheries and an economically profitable fisheries sector.
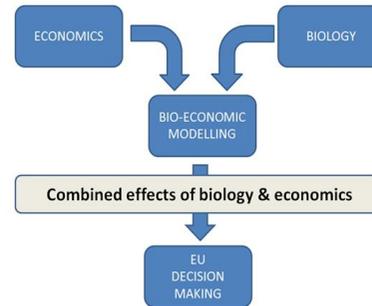


## Socio-economic analysis

The JRC assesses the socio-economic performance of the fishing, aquaculture and sea food processing sectors. This work is used in:

- monitoring the implementation of measures under the European Maritime and Fisheries Fund
- assessing the importance of fisheries and aquaculture in terms of employment and Gross Value Added in EU coastal communities and regions
- exploring the perspectives of fisheries and aquaculture, also in the context of global food security

## Habitat mapping

Habitat mapping provides an overview of favourable habitats of key marine species in time and space – when and where are preferred feeding and spawning grounds? Knowledge on habitats is derived from satellite observations and modelling of ocean parameters.
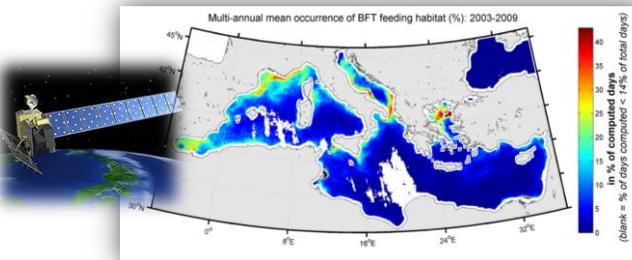


*Based on satellite remote sensing, the JRC habitat model provides a view on preferred bluefin tuna habitats in the Mediterranean Sea, as well as their changes over time.*

## Aquaculture

Compared to many other regions in the world, the aquaculture sector in the EU is stagnant.

JRC research contributes to identifying impediments to the development of this sector.

## Assessment for All (a4a)

The JRC has developed a modelling framework for the rapid assessment of data-limited fish stocks under the Assessment for All (a4a) initiative. Flexible models of fish stocks dynamics can be constructed for assessing current status and advice on future trends. Management performance can also be evaluated under various uncertainty scenarios on stock dynamics built, using a4a.

## Genetics and genomics

The JRC focuses on the integration of genetic and genomic approaches into modern fisheries management. Pertinent examples are species identification through DNA analysis in order to support traceability and fisheries control, as well as Genetic Stock Identification (GSI).



*Genetic analysis can help to answer three questions:*
*- What species is it (even on processed and mixed fish products)?*
*- Where does the fish (product) come from?*
*- Is it wild or farmed?*



*Origin assignment of fish: Using genetic analysis, individual fish of unknown origin can be assigned to the stock or population they belong to. In this scenario there are three baseline populations from the North Atlantic (NA), North Sea (NS) and Baltic Sea (BS). The fish in question will be assigned to BS (after Martinsohn et al. 2011).*

## International cooperation

The JRC cooperates with other key organisations from all over the world, including the UN Food and Agriculture Organization (FAO), the International Council for the Exploration of the Sea (ICES), the United States National Oceanic and Atmospheric Administration (NOAA) and many EU Marine Research Institutes.