

Indicator (definition)	Fish catches from stocks outside "safe biological limits": Percentage of the total catches taken from stocks considered to be outside "safe biological limits".
Eurostat Unit	Agriculture and Fisheries
Other Commission DGs	DG Maritime Affairs and Fisheries
European Statistical System Working Group (WG)	Fishery Statistics Working Group
Date	November 2010

1. Overall assessment of accuracy and comparability (Description of quality grades under the following link: http://circa.europa.eu/Public/irc/dsis/structind/library?l=/general_information/quality_profiles/annex_enpdf/EN_1.0_&a=d)

A
 B
 C
 Indicator to be developed

All international fisheries organisations use almost the same principles to determine the state of the stocks, and ICES has fine-tuned the methodology used. However decisions are based on safety margins usually set at 30 % above safe limits which in turn bears a degree of uncertainty since estimates of fishing mortality (F) and Spawning Stock Biomass (SSB) are themselves uncertain; the decision on the reference points is then a task for managers, not scientists.¹

2. Objective and relevance of the indicator:

According to a Food and Agriculture Organization (FAO) estimate, over 70% of the world's fish species are either fully exploited or depleted. The dramatic increase of destructive fishing techniques worldwide destroys marine mammals and entire ecosystems.

The First Census of Marine Life 2010 was able to determine, however, that over-fishing was reported to be the greatest threat to marine biodiversity in all regions followed by habitat loss and pollution.

The indicator relates to the catches of a number of stocks which have been assessed to be outside safe biological limits (SBL). A stock is considered within safe biological limits if its spawning stock biomass (SSB) estimated at the end of the year is higher than the SSB corresponding to the precautionary approach level, as recommended by the International Council for the Exploration of the Sea (ICES). When these direct estimates are missing, the ICES utilises other types of estimates:

- Estimates of fishing mortality (F) in the terminal year and F levels corresponding to the precautionary approach or (F_{pa}) or other desired levels of F serving as a guide for management. If F is higher than F_{pa}, then the stock is considered
- Estimates of catch per unit effort (U) and some desired level of U (U_{pa}). For redfish this has been taken as half the maximum observed value. The reasoning is as for SSB².

By 2011, time is running out for reaching Maximum Sustainable Yield (MSY) targets by 2015. Many important stocks are now under long-term plans that have F_{msy} (maximum sustainable yield rate of fishing) objectives. These plans should be implemented, and for both new plans and for existing plans that need revision to align their targets on MSY, the Commission will make appropriate F_{msy} –based proposals.

For stocks for which no long-term plans have yet been proposed, it would be appropriate to move towards MSY by reducing fishing mortality in equal steps from the 2011 fishing year until the 2014 fishing year to F_{msy}, and exploiting stocks at F_{msy} in 2015 and thereafter. Starting in 2011, this means four equal steps.

Restriction of the indicator's relevance and other characteristics which may lead to restrictions in using it in monitoring and reporting

¹ Based on EEA indicator factsheet, Fish stocks outside safe biological limits.

² In this case, U does reflect the size of the stock and may be used as a proxy for SSB.

The geographical coverage of the indicator is only partial (Northeast Atlantic). Illegal, unreported, and unregulated catches are not considered. The amount of fish landings say something about the sustainability of the production function but not very much about the ecological function, since fish stocks are also affected by other factors, such as environmental fluctuations and climatic change, predator-prey interactions and habitat modification. In addition, total allowable quotas are influenced by political and economical considerations in general well above limits considered sustainable and advised by scientists.

3. Data availability: details

(t₁: earliest reference year available; t₂: latest reference year available in November 2010)

	Member States ³	Candidate and Acceding Countries	US and Japan	EEA-EFTA
t ₁	1994	-	-	-
t ₂	2006	-	-	-

Data are not available for individual countries but only as aggregate.

4. Overall accuracy

High
 Restricted
 (sources, errors, methodology, etc.)

Datasets are based on time-series that accurately reflect the state of a stock. Using reference points and the precautionary approach allows for a buffer zone and better estimation for the management of the stock. Each international organisation uses the same principle to determine the state of the stock. The International Council for the Exploration of the Sea (ICES) has fine-tuned the system.

However, decisions are based on safety margins usually set at 30 % above safe limits, which in turn bear a degree of uncertainty since estimates of fishing mortality (F) and spawning stock biomass (SSB) are themselves uncertain; the decision of the reference points is then a task for managers and not scientists⁴.

Moreover, the indicator does not include illegal, unreported and unregulated catches, which have proved to be a substantial part of total catches. Neither do the figures include some catches in the Northeast Atlantic by non-ICES countries such as Bulgaria, Italy and Romania; although in general the volume of these catches has been small.

5. Comparability across countries

High
 Restricted
 Not applicable

The data are estimates based on stock assessments. Appropriate catch data by country are not available as data provided by individual countries cover catches in national fishing areas as well as catches in areas managed by third countries; and therefore no European aggregate estimate is possible. Yearly nominal catches of over 200 species of fish and shellfish are officially submitted by 20 ICES Member Countries (including 15 EU, two EFTA countries, Canada, Russia and the United States) in the Northeast Atlantic. The catch data in ICES Fisheries Statistics are derived from STATLANT 27A forms officially submitted to ICES by the national statistical offices of its member countries. These catch data cover the ICES Area (Northeast Atlantic, FAO Area 27). The statistics represent the nominal commercial catch (live weight equivalent of landings, discards excluded) of finfish, invertebrates, and seaweeds.

In some cases, countries may include other types of fishing (recreational) or modify fishing sub-divisions.

6. Comparability over time

High

Annual assessment reports are prepared by ACFM (the Advisory

³ Member States are the 20 ICES Member Countries.

⁴ Based on EEA indicator factsheet, Fish stocks outside safe biological limits.

Committee on Fishery Management of ICES).

In general terms, stocks are characterised as being outside safe biological limits (or over-fished) when the fishing pressure (mortality) exerted on them exceeds sustainability, i.e. when mortality exceeds recruitment and growth. By comparing trends over time in recruitment (R) (the number of new fish produced each year by the mature part of the stock), spawning stock biomass (SSB), landings (estimate of the most likely removal from the stock, sometimes including discards) and fishing mortality (F), a fairly reliable picture of stock development can be derived.

In some cases, reported data may be incomplete and not in conformity with ICES requirements. The methodology has remained constant during the reported period, data sources have been maintained, so results can be considered as comparable over time.

Restricted



7. Development perspective for improving the quality of this indicator (including as far as possible an indication of the burden on Member States and respondents.)

Stock assessment should be carried out for all commercially important stocks in the Northeast Atlantic and Baltic Sea. For the wider Atlantic area, knowledge of the biology of most targeted species (mainly deep-sea species) is insufficient.

The same approach as for the Northeast Atlantic should be followed for the Mediterranean fisheries and precautionary reference limits should be set. Some work has already been carried out by the Directorate-General for Fisheries and Maritime Affairs, and a number of internationally funded bottom trawl surveys such as:

- the MEDITS project that covered the north coasts of the Mediterranean Sea,
- the stock assessment in the Mediterranean SAMED project, and,
- research activities realised in the context of GFCM (General Fisheries Council for the Mediterranean) on local/national level.

8. Contribution to the coherence of the set/potential to qualify for an integrated policy analysis

Relevant European legislation:

Fish catch statistics are based on three Council Regulations 2018/93/EEC, 3880/91/EEC and 2597/95/EC subsequently modified respectively by Commission Regulations 1636/2001/EC, 1637/2001/EC and 1638/2001/EC.

Northeast Atlantic regions: definitions in accordance with Council Regulation 850/98/EC.

Council Regulation (EC) No 1543/2000 of 29 June 2000 establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy

Council Decision 2000/439/EC of 29 June 2000 on a financial contribution from the Community towards the expenditure incurred by Member States in collecting data, and for financing studies and pilot projects for carrying out the common fisheries policy

Commission Decision 2004/555/EC of 15 July 2004 on the eligibility of expenditure to be incurred by certain Member States in 2004 for the collection and management of the data needed to conduct the common fisheries policy

Commission Regulation (EC) No 1639/2001 of 25 July 2001 establishing the minimum and extended Community programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) No 1543/2000

Communication from the Commission - Consultation on Fishing Opportunities for 2011, COM/2010/0241 final

Opinion of the Committee of the Regions on Green Paper — reform of the common fisheries policy and a sustainable future for aquaculture, OJ C 141, 29.5.2010, p. 37–44