Too many vessels chase too few fish

Briefing & Danish case study

FISHSEC
THE FISHERIES SECRETARIAT

On 1 January 2019 it is five years ago the European Common Fisheries Policy (CFP) was reformed and new measures introduced to help eliminate a persistent issue of overfishing and depletion of European fish stocks. Article 22 of the CFP's Basic Regulation establishes mechanisms by which Member States are to seek to identify overcapacity and continually to adjust the size and nature of their fishing fleets to their fishing opportunities.

In other words: If there are too many vessels fishing for too few fish, it is an obligation for EU Member states to identify this and "put in place measures to adjust the fishing capacity".[1]

Reporting under Article 22 should provide national authorities of Member States, and indirectly the European Commission and Parliament, as well as other interested stakeholders, with the information they need to identify and act on fleet overcapacity and help realise one of the main goals of the CFP. But is this currently happening? Is EU fishing capacity really being reduced and the intentions of the CFP followed through?

Undermining a key pillar of the Common Fisheries Policy

The new FishSec study[2], "Too many vessels chase too few fish - is EU fishing capacity really being reduced?", takes a closer look at article 22 of the CFP, recent annual capacity balance reports submitted by EU Member States with Baltic Sea coasts, and the reporting guidelines for national reporting by the European Commission.

Every year, EU Member States are to submit reports to the Commission on the balance between how much their fishing fleets are able to catch compared to the amount of fish they are allowed to catch (capacity balance reports). The more technical description would be that EU Member States need to evaluate the capacity of their fleets and their fishing opportunities based on guidelines developed by the Commission. If an overcapacity is identified by a Member State in its report, the Member State is to prepare and submit an action plan to the Commission to achieve balance.

Capacity balance reporting relating to the **Western Baltic cod** fishery, a fishery showing clear symptoms of overcapacity and overfishing, is used as a running case study in the FishSec report. National reports which do not identify and address this over capacity clearly do not fulfill the intentions of the CFP.

The conclusions are alarming. **EU Member States as well as the European Commission fail to comply with article 22**, thereby undermining a key pillar of the European Common Fisheries Policy - the adaption of the size of the fleet to the amount of fish that can be caught sustainably.

Decision-makers and stakeholders do not currently receive adequate information from Member States and the Commission about fishing overcapacity. As a consequence, **the CFP's system designed to reduce overcapacity is not delivering the intended reductions** where it is needed.

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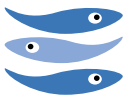

[1] Official Journal of the European Union, REGULATION (EU) No 1380/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 on the Common Fisheries Policy. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2014:0545:FIN:EN:PDF (henceforth referred to as the Basic Regulation). "Fishing opportunities" refers to permitted levels of catches or of effort spent trying to catch fish.

[2] http://www.fishsec.org/app/uploads/2018/10/Fishsec_capacity_report_2018_final.pdf

Today, there is no way for decision makers to get the full picture when reading just one national fleet balance report. For this you need to dig through all national reports, make your own calculations and analysis and finally put together all these pieces of the puzzle. Only then is it possible to get a better overview of the fishing capacity targeting Western Baltic Cod, and identify possible overcapacity. Our analysis show, that across the four national fleets catching Western Baltic Cod (Denmark, Poland, Germany and Sweden) 399 bottom trawlers and seiners longer than 12 meters are part of fleet segments with vessel utilisation indicating overcapacity. **Failure to identify and reduce overcapacity in relation to specific fish stocks on a regional basis is a threat to the sustainability in the Western Baltic cod fishery,** both biologically and economically. Instead of reducing the fishing capacity some member states continue to request quotas higher than scientific advice, which undermines the recovery of the stock and long term profitability. An accurate regional assessment would clarify the need to reduce capacity to achieve a better balance.

Overcapacity still a threat to fleet profitability – and it may be growing

From a regional perspective, neither of the two national reports[3] analysed most closely in this study - the Danish and the German ones - reflect the actual extent of overcapacity in the western Baltic cod fishery. Fleet segments[4] are identified and grouped together in such a way that an overcapacity is identified for small vessels, but not for larger vessels - even if the latter fish more from the same depleted stock.[5] Also, it is not possible to obtain a good regional overview either from the national reports of any of the Member States in the Baltic Sea region or from the reviewed capacity reports produced by The European Commission's Scientific, Technical and Economic Committee for Fisheries, STECF. Thus, reporting does not currently provide fisheries managers and stakeholders at the regional level with the information needed to reduce regional overcapacity and to pressure decision- makers to prevent overfishing.

In the context of identifying overcapacity, it is relevant to notice, that it is still common for Member States, like for instance Denmark, and some stakeholders to argue for the right to catch more fish for so-called socio-economic reasons.[6] However, for a Member State to plead socio-economic reasons for higher fishing quotas could indicate that it has an overcapacity in its fleet. Claims regarding socio-economic impacts should trigger the Commission (and where relevant, the Member State) to take a closer look at the capacity balance of fleet segments potentially fishing the relevant stock. This has not been done, even though it is clear that overcapacity still is a concrete threat to fleet profitability.

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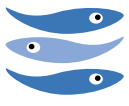

[3] Those produced in 2016 and 2015 respectively by Denmark and Germany, who together dominate the western Baltic cod fishery. Links to these and the other national reports reviewed may be found in the References section at the end of this study.

[4] A fleet segment is a subdivision of a country's overall fishing fleet. A segment is normally defined as a combination of a particular fishing technique category and a vessel length category. See for example https://datacollection.jrc.ec.europa.eu/wordef/fleet-segment-dcf

[5] A stock is defined in the Basic Regulation as "a marine biological resource that occurs in a given management area" (Art. 4(14)), that is, the population of a particular species of fish in a particular area. ICES defines a fish stock thus: "A part of a fish population usually with a particular migration pattern, specific spawning grounds, and subject to a distinct fishery. In theory, a Unit Stock comprises all the individuals of fish in an area, which are part of the same reproductive process. It is self-contained, with no emigration or immigration of individuals from or to the stock. On practical grounds, a fraction of the unit stock is considered a 'stock' for management purposes (or a management unit), as long as the results of the assessments and management remain close enough to what they would be on the unit stock." ICES, Acronyms and terminology, http://www.ices.dk/community/Documents/Advice/Acronyms_and_terminology.pdf

[6] See for example the 'bible' with comments from national delegations prepared by the General Secretariat of the Council in advance of the Agriculture and Fisheries Council meeting in October 2016 to determine fishing quotas for the Baltic Sea for 2017: Note from the General Secretariat of the Council to Delegations, 11813/16 PECHE 296 + ADD 1 - COM(2016) 545 final + Annex, 22 September 2016 http://data.consilium.europa.eu/doc/document/ST-12395-2016-REV-1/en/pdf

Apart from EU Member States, the Commission itself also fails to comply with key provisions of Article 22 in a number of ways. For example, its Guidelines do not indicate relevant enough parameters and indicators for national capacity balance reporting. Moreover, there is overall **poor compliance** with the Basic Regulation and the Commission's Guidelines among EU Member States in the Baltic Sea region.

STECF has repeatedly criticised the Commission's Guidelines and proposed improvements [7]. However, **STECF's criticisms and recommendations have not been reflected in the Commission's reports to the European Parliament and Council,** and the Commission have taken no visible follow-up actions in response to STECF's findings. Furthermore, there is a **serious weakness in the CFP's indicators for measuring fishing capacity.** They do not take account of 'technological creep', the immense increase in fishing capacity resulting from any technical innovation such as sonar, underwater cameras, improved more efficient fishing gear, better propellers, etc, etc. As a result a Member State's ability to catch fish may increase despite indicators showing a decrease.

The Danish example: Red lights turning green

Clear cases of non compliance with Article 22 were found in Denmark and Germany, who dominate the Western Baltic cod fishery. Neither of their analysed national reports [8] reflect the actual extent of overcapacity in the western baltic cod fishery.

Denmark's 2016 capacity balance report identifies a number of different fishing fleet segments, defined by length and gear type. However, the data presented does not include information on each fleet segment's catches by species or on each segment's fishing areas. It is therefore impossible to identify the fleet segments fishing for individual stocks such as western Baltic cod. **Since one fisheries segment as defined could consist of vessels fishing in the Baltic Sea and vessels fishing in the North Sea, for species that may or may not include cod, it is not even possible to say which ocean the capacity is targeting, not to mention what fish stock.**

The report includes a table that shows all indicator values as well as an overall 'traffic light' assessment for each fleet segment.[9] The table below collects and summarises indicator values given in the report for fleet segments with landings of roundfish (including cod), their share of the country's roundfish landings, and the report's overall assessment of each segment. In sum, despite indicator values indicating high risk of or possible overcapacity in the four segments together responsible for more than 75% of Danish roundfish landings in 2016, each of these segments is classed as being in balance and the fleet as a whole is classed as being in balance with fishing opportunities.

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[7] Technological creep' refers to technological advances that increase the ability to catch fish but are not captured by the conventional method of measuring fishing capacity. See for example Marchal, Paul & Bo, Andersen & B, Caillart & Eigaard, Ole & Guyader, Olivier & Holger, Hovgaard & Iriondo, Ane & Fur Fanny, Le & Sacchi, Jacques & Santurtún, Marina. (2007). Impact of technological creep on fishing effort and fishing mortality, for a selection of European fleets. ICES Journal of Marine Science (1054-3139) (Oxford university press), 2007 , Vol. 64 , N. 1 , P. 192-209. 64. https://www.researchgate.net/publication/29491769_Impact_of_technological_creep_on_fishing_effort_and_fishing_mortality_for_a_selection_of_European_fleets

[8] Those produced in 2016 and 2015 respectively by Denmark and Germany, who together dominate the western Baltic cod fishery. Links to these and the other national reports reviewed may be found in the References section at the end of this study.

[9] Ministry of Environment and Food in Denmark. 2017. Annual Report on fishing fleet capacity 2016 – Denmark http://lbst.dk/fileadmin/user_upload/NaturErhverv/Filer/Fiskeri/Kort_statistik/Statistik/flaaderapport/23-05-2017-DKFleetreport2016_final.pdf (henceforth referred to as the Danish report), Table F.8 p.20

Only segments with very small shares of the overall roundfish landings (such as demersal trawlers under 10 metres) are classed as being out of balance with fishing opportunities, even though larger demersal trawlers may fish the same stocks as them.

Indicator values, landings and assessments for segments of the Danish fleet with landings of roundfish in 2016

Length	Gear code	ROI	Current/ break-even	SHI 3 years	SAR	Utilisation	Share of Danish roundfish landings	Overall assess-ment
VL0010	DTS	0.02	1.32	1.3, 1.0, 0.9	0	0.29	0%	Less active
VL0010	PGP	-0.11	-0.09	1.9, 1.9, 1.8	N/A	0.13	2%	Less active
VL0010	PMP	-0.04	0.53	1.5, 1.4, 1.2	1	0.23	1%	Less active
VL1012	DTS	0.00	0.96	1.6, 1.4, 1.7	1	0.57	1%	In balance
VL1012	PGP	-0.04	0.57	2.5, 2.3, 2.9	3	0.57	2%	In balance
VL1012	PMP	-0.01	0.92	1.5, 1.4, 1.2	0	0.43	2%	In balance
VL1218	DTS	0.01	1.14	1.4, 1.2, 0.9	6	0.43	14%	In balance
VL1218	PGP	-0.02	0.81	1.4, 1.2, 1.2	0	0.49	3%	In balance
VL1218	PMP	0.00	1.04	1.6, 1.4, 1.4	1	0.45	5%	In balance
VL1218	TM	0.07	2.68	1.0, 1.2, 1.0	2	0.55	1%	In balance
VL1824	DTS	0.04	1.64	1.3, 1.1, 1.0	5	0.54	12%	In balance
VL1824	PMP	0.05	1.84	1.2, 1.0, 1.0	1	0.70	2%	In balance
VL2440	DTS	0.05	1.78	1.1, 1.1, 1.0	4	0.72	41% [1]	In balance
VL2440	PMP	N/A	N/A	N/A	N/A	0.63	10%	In balance
COM	Green	>0	>1	<1	0	>0.9		
Guide-	Yellow		>0<1		>0			
lines	Red	<0	<0	>1	>10%	<0.7		

Segments with 10% or more of the Danish catch of roundfish are shown in bold.
Indicators:
ROI Return on Investment Indicator
SHI Sustainable Harvest Indicator
SAR Stocks at Risk Indicator
VL indicates vessel length range in metres. N/A indicates data not available.
Gear codes:
DTS Demersal trawlers and/or demersal seiners
PGP Vessels using polyvalent passive gears only
PMP Vessels using active and passive gears
TM Pelagic trawlers
Source: Danish national report for 2016.10 More detailed information on the indicators may be found in Annex III of the present report.

Examples of discrepancy between what the specific indicators imply and the traffic light assessment in the Danish capacity balance report (for more explanation of the indicators, please see the glossary):

- A large number of segments have red values for the Return on Investment and/or Vessel Utilisation indicators, suggesting that they are out of balance (i.e. that the segment has an overcapacity).[11] Still for most segments and a number of segments having one or more other indicators suggesting some

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[10] Most information comes from "Table F.8. Traffic Lights" in the Danish report (p. 20). The utilisation value for the segment VL2440 PMP comes from "Table F.2. Ratios between average days at sea and maximum days at sea" (p. 10). Table F.8 contains only values for the latest year and does not show a traffic light colour. The Guidelines clarify that if the value is greater than one for three consecutive years it could be an indication of imbalance. The SHI values for the latest three years (2012, 2013 and 2014) come from "Table F.3. Sustainable Harvest Indicator (SHI)" (p. 11) When the value is greater than one for three consecutive years the segment has therefore been given a red light in Table 1 in this report. The shares of the Danish roundfish landings were calculated for the present report from information in "Table A.3. Distribution landing live weight in 2016 on overall fisheries (%)" (p. 3). The Danish report includes catches from VL24XX TBB (beam trawlers) in the catches from VL2440 DTS, which is sometimes done when there are very few vessels in a segment.

[11] Danish report, p. 20

degree of imbalance, the overall indication in the traffic light system is green for all segments, with the exception of the three segments for vessels under 10 metres - classed as "mainly inactive or less active" and/or "non-commercial".[12] **All other fleet segments are assessed as being in balance with their fishing opportunities, even when they show a majority of red or yellow indicators. The danish report offers no explanation for this assessment.**

- The segment of vessels 24-40 meters in length, that are fishing with bottom trawls and seines (VL2440 DTS) and have the largest share of roundfish landings (41%) have an Sustainable Harvest Indicator value (SHI) [13] value indicating a high risk of overcapacity, and Stocks At Risk value (SAR) [14] and Vessel Utilisation values indicating possible overcapacity. Nonetheless the report classifies it as in balance. Two of the other segments of vessels between 12-18 and 18-24 meters in length using bottom trawls and seines (VL1218 DTS and VL1824 DTS) and with more than 10% each of Danish roundfish landings, have biological and Utilisation indicator values indicating high risk of or possible overcapacity. These are also classified in the report as being in balance. The segment of vessels between 24-40 meters in length using passive and active gear (VL2440 PMP), with 10% of the Danish roundfish catch, has a Utilisation value indicating high risk of overcapacity. Values for other indicators are not given in the report, possibly due to the small number of active vessels (four) in this segment.

- Although in 2016 only one of 19 vessel segments for which the indicator is reported had a Vessel Utilisation figure above 0.9 (green light) and 14 of 19 segments had one below 0.7 (red light), Denmark's 2016 report concludes that "there is an acceptable balance between capacity and fishing possibilities", and no action plan was submitted together with the report. [15]

A prime driver behind overfishing and depletion of fish stocks

Excessive fishing capacity has long been recognised by the UN Food and Agriculture Organization (FAO) as the primary cause to overfishing and depletion of fish stocks[16], and globally the issue has been addressed at a number of occasions. At the World Summit on Sustainable Development in Johannesburg in 2002, governments from all around the world, including the EU Member States, agreed urgently to address the issue of managing fleet capacity. [17] They made a commitment to;

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[12] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Art 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy, COM(2014) 545 final, Brussels, 2.9.2014 https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2014:0545:FIN:EN:PDF (referred to henceforth as the Guidelines or the Commission's Guidelines), p. 15

[13] SHI - Sustainable Harvest Indicator, a measure of how much a fleet segment relies on stocks that are overfished.

[14] SAR - Stocks-at-risk, a measure of how many stocks being affected by fishing from the segment are at risk of not being able to replenish themselves.

[15] Danish report p. 19.

[16] FAO Fisheries technical paper 445, 2003, Measuring capacity in fisheries, http://www.fao.org/3/a-y4849e.pdf

[17] Plan of Implementation of the World Summit on Sustainable Development, Article 31(d), http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf

maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015.[18] [19]

Also, In the run-up to the 2013 reform of the European Common Fisheries Policy (CFP), a 2009 European Commission Green Paper summed up the problem for European Union (EU) fisheries as being that "too many vessels chase too few fish."[20] The Green Paper stated, this was the fundamental problem to be solved by the CFP,[21] and accordingly a number of provisions that seek to address overcapacity were introduced with the CFP reform in 2013. One of the primary provisions was article 22.

However, up until the time of the 2013 reform of the CFP, the EU Member States' progress towards the goal of maintaining or restoring stocks to MSY levels (maximum sustainable yield) was insufficient.[22] Accordingly, the reform stipulating that by 2020 at the latest (and where possible by 2015) fishing pressure is to be set at FMSY (the level of catches of a given stock that produces the MSY).[23] This deadline is fast approaching with less than 2 years left to end overfishing, and overcapacity as the main driver still not sufficiently addressed.

Main recommendations

- Member States more actively seek to identify and address imbalances in their fleets;
- The European Commission revises its Guidelines to ensure that national reports reflect the total pressure on a fish stock;
- Member States and the European Commission act to ensure that a regional report is prepared showing the total capacity from all countries targeting a specific fish stock.

Glossary: Descriptions of the indicators

Biological indicators

The Sustainable Harvest Indicator (SHI)

The sustainable harvest indicator is a measure of how much a fleet segment relies on stocks that are overfished. Here, "overfished" is assessed with reference to F_{msy} values over time, and reliance is calculated in economic terms. Where F_{msy} is defined as a range, exceeding the upper end of the range is interpreted as "overfishing".

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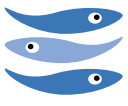

[18] United Nations: Plan of Implementation of the World Summit on Sustainable Development http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf Article 31(a), and FAO, World Summit on Sustainable Development 2002 and its implications for fisheries http://www.fao.org/docrep/meeting/005/y8294E.htm

[19] EU Commission: Questions and Answers on Maximum Sustainable Yield (MSY) http://europa.eu/rapid/press-release_MEMO-06-268_en.htm

[20] European Commission: GREEN PAPER Reform of the Common Fisheries Policy, COM(2009)163 final, Brussels, 22.4.2009 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0163:FIN:EN:PDF (henceforth referred to as the Green Paper). Note that in the present study, "fishers" refers to individuals and companies that fish commercially. Green Paper, p. 5

[21] Green Paper, p. 8

[22] See for example Ending overfishing: much to celebrate, much to do, https://ec.europa.eu/dgs/maritimeaffairs_fisheries/magazine/en/policy/ending-overfishing-much-celebrate-much-do

[23] European Parliament, Fact Sheets on the European Union, The Common Fisheries Policy: origins and development http://www.europarl.europa.eu/atyourservice/en/displayFtu.html?ftuId=FTU_5.3.1.html "F" refers to fishing pressure. A more technical definition of F in this context is: "F, Fishing mortality: Instantaneous Rate of Fishing Mortality. When fishing and natural mortality act concurrently, F is equal to the instantaneous total mortality rate (Z), multiplied by the ratio of fishing deaths to all deaths." ICES, Acronyms and terminology, http://www.ices.dk/community/Documents/Advice/Acronyms_and_terminology.pdf

Threshold: Values of the indicator above 1 indicate that a fleet segment is, on average, relying for its income on fishing opportunities which are structurally set above levels corresponding to exploitation at levels corresponding to MSY. This could be an indication of imbalance if it has occurred for three consecutive years. Shorter time period should be considered in the case of small pelagic species.

The Stocks at Risk Indicator (SAR)

The stocks-at-risk indicator is a measure of how many stocks are being affected by the activities of the fleet segment that are biologically vulnerable – in other words, stocks which are at low levels and are at risk of not being able to replenish themselves …

Threshold: if a fleet segment takes more than 10% of its catches taken from a stock which is at risk, this could be treated as an indication of imbalance.[24]

Economic indicators

The Return on Investment Indicator (RoI)

The first indicator (Return on Investment) compares the long-term profitability of the fishing fleet segment to other available investments. If this value is smaller than the low-risk long term interest rates available elsewhere, then this suggests that the fleet segment may be overcapitalised.

Threshold: If the return on investment (RoI) is less than zero and less than the best available long-term risk-free interest rate, this is an indication of long-term economic inefficiency that could indicate the existence of an imbalance.

The Current Revenue/Break-Even Revenue Indicator (CR/BER)

The second indicator is the ratio between current revenue and break-even revenue. This measures the economic capability of the fleet segment to keep fishing on a day-by-day basis: does income cover the pay for the crew and the fuel and running costs for the vessel? If not, there may be an imbalance.

Threshold: If the ratio between current revenue and break-even revenue is less than one, this is an indication of short-term economic inefficiency that could indicate the existence of an imbalance.

Technical/vessel use indicators

Inactive Fleet Indicator/ Vessel Utilization Indicator

The first indicator describes the proportion of vessels that are not actually active at all (i.e. that did not fish at any time in the year).

The second indicator concerns the average activity levels of vessels that did fish least once in the year, taking account of the seasonality of the fishery and other restrictions. Under normal conditions, it can be expected that 10% or less of the vessels in a fleet segment should be inactive, which could be due to major repairs, refits, conversions or pending sales and transfers.

Threshold: if more than 20% of the fleet segment is recurrently inactive or if the average activity level of vessels in a fleet segment is recurrently less than 70% of the potential, workable activity of comparable vessels, this could indicate technical inefficiency, that may reveal the existence of an imbalance, unless it can be explained by other reasons, such as unexpected climatic or man-made events or emergency measures as foreseen in the CFP.

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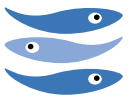

[24] It is not clear from the Guidelines whether the share of catches is to be calculated in terms of value or of landed weight.

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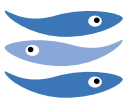

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