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

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1. INTRODUCTION

The existence of fleets which are not in balance with the resource they exploit has been an important driving force behind the historic overexploitation of resources in European waters. The new Common Fisheries Policy confirms the need for measures to manage fishing capacity: Member States are required to put in place measures to adjust the fishing capacity of their fleets to their fishing opportunities over time. The analysis and evaluation of the balance between the fleets and the resources that they exploit is carried out by each Member State, in accordance with the present common guidelines developed by the Commission[2]. These guidelines should also be used for the purpose of the Commission's annual report to the Council and Parliament on the balance between the fishing capacity of member States' fleets and their fishing opportunities[3].

The common guidelines developed by the Commission will also play an important role from 2014 onwards by establishing a direct link between each Member State's fleet report and fleet measures under the new European Maritime and Fisheries Fund (EMFF)[4], which will continue to make available public support for the permanent cessation of fishing vessels in the 2014-2020 period[5]. A specific ex-ante conditionality related to the fleet report has been established, which may have a direct impact on the achievement of the specific objectives of the new EMFF[6]. Under the rules of the EMFF, support for permanent cessation is limited and targeted to cases where a fleet segment is not effectively balanced with fishing opportunities available to that segment[7].

The new fleet report guidelines contained in this document set out a common approach for the estimation of the balance over time between fishing capacity and fishing opportunities. Account needs to be taken of the available fishing opportunities as well as of the impact of the fleets upon them. To this end, it is recommended to assess, for each fleet segment, the extent to which each fleet relies on stocks that are fished above the target rates, and to assess how many stocks that make up a significant part of their

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[1] Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision/585/EC, OJ L 354/22 of 28.12.2013.

[2] Article 22 (2) of Regulation (EU) No 1380/2013.

[3] Article 22 (4), second subparagraph of Regulation (EU) No 1380/2013.

[4] Regulation (EU) No 508/2014 of Parliament of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council, OJ L 149/1 of 20.05.2014.

[5] Public support for permanent cessation under the EMFF is also limited in time (31 December 2017).

[6] Annex IV to Regulation (EU) No 508/2014.

[7] Article 34 (1) point (b) of Regulation (EU) No 508/2014.

catches are at biological risk due to low abundance and are significantly affected by the fleet. This will allow an assessment of the imbalance between each fleet segment and the stocks they rely on. Inferences of imbalance may also be drawn from other parameters. For instance, unprofitable or underused fleet segments may indicate that the fleet segment is not in balance with the resources. Where many vessels in a fishing fleet segment are recurrently or permanently tied up and inactive, or where many vessels spend less time fishing than they could, then the fleet segment in question may be too large for the available resources on which the vessels rely, particularly if economic performance is poor.

2. PURPOSE AND PRINCIPLES

The purpose of these guidelines is to provide a common methodology for the assessment of the balance over time between fleet capacity and fishing opportunities at fleet segment level.

These guidelines aim to:

use standard methods to ensure a level playing field when different fleet segments are being compared;

follow best possible scientific, economic and technical practices[8], and ensure compatibility with standard biological, economic and social assessments;

use data collected according to the Data Collection Framework to facilitate comparisons and to avoid duplication of work.

The fleet segment assessment should be a synthesis assessment based on the foregoing components. A standard methodology for reaching an overall assessment for each fleet segment is described below.

3. MEASURING THE PARAMETERS

Member States are invited to calculate a small number of biological, economic and technical parameters each year and compare the results against standard values. In order to keep the workload manageable and to have standardised analyses, these parameters should be calculated using data collected under the Data Collection Framework[9].

The biological indicators are designed to reflect the extent to which the size of each fleet segment is not in balance with the stocks that they exploit. Where possible and available, these indicators will identify where imbalances lie.

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[8] These guidelines are based in on advice from the STECF (SGBRE 10-01, EWG 11-10 and PLEN 10-03), including comments by four Member States, and taking into account experience in 2013 reported on in STECF EWG 13-28.
[9] See Council Regulation (EC) No 199/2008 of 25 February 2008, concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy, OJ L 60, 5.3.2008.

Short- and long-term profitability indicators should also be calculated, as should be indicators of vessel utilisation. These indicators provide information about the economic and operational state of a fishing fleet segment, which can be informative in the analysis of the balance, but also for other operational decisions to be made at Member State level.

4. ASSESSING THE BALANCE

The indicators are intended to be used in combination to draw conclusions on imbalance for each fleet segment separately. Aggregated analyses across many different fisheries in one Member State are not useful.

In general, fleet segments that are relying on healthy stocks and are also profitable both in the short- and long- term are likely to be in balance.

Fleet segments that are not in balance with the fishing opportunities they are exploiting would normally be considered as being in imbalance, even if economic indicators show short and long term profitability. The CFP refers to balance (and imbalance) *over time*, so it is appropriate to consider several years rather than a single year.

As the lack of complete stock assessments for a significant number of stocks prevented the calculation of biological indicators, alternative indicators might need to be selected or developed. When the biological indicator is unavailable due to the lack of values of F and Fmsy for more than 60% of the stocks that constitute the catch, the sustainable harvest indicator cannot be used meaningfully to assess the balance or imbalance of a fleet segment. In such cases Member States should, in order to help assess imbalance, use available assessment information about one or more species that for reasons of historical abundance or consistency could be considered as indicators of the impact of fishing on an exploited ecosystem.

Fleet segments with poor economic performance which are fishing healthy stocks may face low profitability related to other factors (e.g. low sales price of the fish, high production costs, consumer preferences, low demand, increase in fuel prices, high imports or substitution effects), which are not necessarily related to an imbalance between capacity and available resources. National authorities will need to follow closely fleet segments in that situation to avoid that it leads to negative impacts on stocks in the medium to long term.

In the absence of clear biological and economic indicators, if the vessel use indicators are outside their thresholds, this could indicate an imbalance situation as well.

In each case, the analysis of the situation should be made against standardised parameters in order to draw conclusions with a common basis. Appropriate values are indicated in Section 7. Where the indicators suggest a situation of imbalance, but a Member State considers that nevertheless the fleet segment in question is in balance with resources (or *vice versa*), the Commission will expect a supporting analysis to be provided.

5. PROGRESSIVE IMPLEMENTATION

The overall objective should be that Member States achieve a stable and enduring balance between the fishing capacity of their fleets and the fishing opportunties over time. While fishing opportunites do not necessarily match the MSY objective at all times, the first biological indicator has been designed with this overall objective this in mind.

Where a gradual transition to the MSY objective is underway, annual fishing opportunities in the transition to MSY may exceed what would arise from an immediate application of the MSY target. In such situations biological indicators are likely to exceed the threshold values related to MSY. It would however not be appropriate to conclude that a fleet segment is necessarily in imbalance if the transition is underway to align fishing opportunities with the MSY objective as set out in the CFP. Circumstances like this should be explained by Member States in their annual reports.

6. ACTION PLAN

For the fleet segments with clearly demonstrated imbalance, the Member State concerned shall prepare and include in the report on the balance between fishing capacity and fishing opportunities an action plan that sets out the adjustment targets and tools to achieve a balance and a clear time-frame for its implementation. The plan should specify the causes of the imbalance and in particular if it has a biological, economic or technical background as calculated according to section 7.

7. INDICATORS

7.1 Biological Indicators

Two indicators are used to assess whether vessels are relying on overfished stocks, or involved in causing a high biological risk to a depleted stock. The description of the indicators and calculation methods are given in Section 10.

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".

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 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 and which are either important in the catches of the fleet segment or where the fleet segment is important in the overall effects of fishing on the stock. If a fleet segment has an impact

on one or more stocks at high biological risk, this is an indicator of a potential capacity imbalance.

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.

7.2 Economic Indicators

Two indicators are used to evaluate whether fleet segments are economically sustainable in the long term (allowing capital investments) and to be able to cover their costs in the short term. The technical basis for calculating these indicators is given in section 11.

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) [10] *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 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.

7.3 Vessel Use Indicators

These indicators describe how intensively the ships in a fleet segment are being utilized. The calculation of these indicators is described in Section 12.

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.

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[10] Experience shows that the capital asset value is often not available or is not reliable. Net profit could replace ROI (or ROFTA) in such cases.

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 recurrrently less than 70% of the potential, workable activity of comparable vessels, this could indicate technical inefficiency, that may reveal the exixtence 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.

8. WORKING METHOD AND USE OF DATA

In order to avoid duplication of work and in order to keep consistency with other economic and biological data, the evaluations set out here should be calculated from data as collected and structured under the Data Collection Framework in force. Naturally every effort should be made to ensure the completeness of the DCF data, in compliance with Member States' obligations under the CFP.

It is essential to evaluate the indicators separately by fleet segment because the various fleet segments of each Member State can have very different characteristics.

As biolological and economic parameters vary over time, it is recommended that Member States should calculate and consider time-series of at least three years when considering the balance.

It is possible that consistency problems remain, particularly for the economic data and indicators. If fleet segments show erratic economic performance, Member States are expected to check and if so indicate whether income or costs have been affected by sudden, short-term shocks.

9. ADDITIONAL INFORMATION TO BE INCLUDED IN NATIONAL FISHING FLEET REPORTS.

The national fishing fleet reports should also contain the following information:

(a) a description of the fishing fleet segments in relation to fisheries: development(s) during the previous year, including fisheries covered by multiannual management or recovery plans;

(b) the impact on fishing capacity of fishing effort reduction schemes adopted under multiannual management or recovery plans or, if appropriate, under national schemes;

(c) information on the compliance with the entry/exit scheme;

(d) a summary report on the weaknesses and strengths of the fleet management system together with a plan for improvements and information on the general level of compliance with fleet policy instruments;

(e) any information on changes of the administrative procedures relevant to the management of the fleet.

It is acceptable to address these points by reference to other documents so long as they are publicly available.

(f) for fleet segments where imbalance has been demonstrated, an action plan must be included which sets out the adjustment targets and tools to achieve the balance, with a clear time frame for the implementation of the plan.

10. BIOLOGICAL SUSTAINABILITY INDICATORS

10.1 Sustainable Harvest Indicator

This indicator reflects the extent to which a fleet segment is dependent on overfished stocks. Here, "overfished" means that a stock is fished above F_{msy}, the fishing mortality rate corresponding to maximum sustainable yield.

Data requirements are: full biological assements of the stocks fished, i.e. where current fishing mortality has been determined; estimates of F_{msy}, <u>or existing proxies to it (Fmax or F0.1)</u> and the value of the catch of each stock taken.

Where a fleet segment fishes a single stock, the indicator is calculated simply as

$$\frac{F}{F_{msy}}$$

where F is the most recent value of fishing mortality available from scientific assessments (e.g. ICES and STECF advice). This parameter is closely similar to the previous indicator F/Ft, the difference being that F_{msy} is now used as the standard objective across all the Common Fisheries Policy.

The indicator has been extended to cover fleets active in different fisheries (during the year) and mixed-fisheries situations. Where a fleet segment catches fish of a number of species (n) then the indicator is an average of the indicator above for each stock (i), weighted by the value of the landings Vi of that stock ([11]). The indicator is therefore

$$\frac{\sum_{i=1}^{i=n} V_i \frac{F_i}{Fmsy_i}}{\sum_{i=1}^{i=n} \sum V_i}$$

This indicator performs in the same way whether the fleet segment makes catches from different stocks in the same fishing operations or whether this occurs in sequence of different targeted fisheries within the same fishing year.

As the calculation of this indicator requires some preparation and database calculations, the Commission is arranging for these values to be provided to Member States, based on DCF data and assessments by ICES and STECF.

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[11] When values are not available, volumes could be used but MS should indicate whether species are high or low value.

Calculation of the indicator depends on the availability of quantified scientific advice for the stocks in question[12].

Calculation of biological indicators based on catch per unit effort (cpue) or biomass indices is not generally recommended as these are most often uninformative.

10.2 Stocks-at-risk indicator

The stock-at-risk indicator described in Section 7.1 does not identify cases where stocks at high levels of biological risk are being exploited.

As a complementary indicator to identify such situations, Member States are requested to count the number of stocks currently assessed as being at high biological risk that are exploited by the fleet in question. In this context, "exploited by" means that the stock(s) at high risk each make up more than 10% of the catches of the fleet, or that the fleet takes more than 10% of the catches of the stock.

For this calculation, a stock at high biological risk means a stock which is either:

a) assessed as being below the B_{lim} biological level; or,
b) subject to an advice to close the fishery, to prohibit directed fisheries, to reduce the fishery to the lowest possible level, or similar advice from an international advisory body, even where such advice is given on a data-limited basis; or;
c) subject to a fishing opportunities regulation which stipluates that the fish should be returned to the sea unharmed or that landings are prohibited; or
d) a stock which is on the IUCN "red list"or is listed by CITES.

This can be expressed, for each fleet segment catching n stocks of fish, as:

$$\sum_{i=1}^{i=n} (1 \; if \; (C_i > 0.1 C_t) \; or \; (C_i > 0.1 T_i); \; otherwise \; 0)$$

where

C_i= catch, C_t = total catch of all stocks taken by the fleet segment, T_i = total catch of stock i taken by all segments, for n stocks that fall into any one of categories a) to c) above.

11. ECONOMIC INDICATORS

The economic indicators may show the extent of economic over or under capitalisation in a fleet, both in the short and in the long term.

Two indicators have to be calculated: Return on investment compared to the potential return that would be received from investing the capital asset value elsewhere (long term

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[12] In cases where more than 60% of the value of the catch is made up of stocks for which values of F and Fmsy are unavailable the indicator is also deemed to be unavailable.

viability) and the ratio between current revenue and break even revenue (short term viability).

Both indicators require the use of the interest rate in each MS of a low risk long term investment for comparison purposes. The Commission proposes to use the harmonised long-term interest rates for convergence assessment calculated by the European Central Bank, available at http://www.ecb.int/stats/money/long/html/index.en.html.

To take into account the high variability in interest rates in the last few years in most MS due to the economic crisis, the Commission proposes to use the arithmetic average interest rate for the previous 5 years. Hence for the purposes of the 2013 assessment of balance, the interest rate to be used will be that correponding to the period 2008-2012.

In 2013 the Commission is requesting STECF to make these parameters available to Member States based on DCF information.

As for the other indicators, these parameters should be calculated on a fleet segment basis.

11.1 Return on Investment (ROI) vs next best alternative

The return on investment (ROI) for a fleet is the net profit (profit after capital stock depreciation) of the fleet divided by total capital asset value of the fleet. The commercial value of any fishing rights held is not included. All data for the ROI calculation should be available under the DCF. Data on direct income subsidies should be excluded from the calculation. However, MS are invited to provide a table showing the subsidies granted to each fleet segment since 2008.

The suggested calculation method is as follows:

ROI = Net profit / Capital asset value

Where:

Net profit = (Income from landings + other income) – (crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs + non variable costs + depreciation)

And where:

Capital asset value = Vessel replacement value + estimated value of fishing rights

Ideally, the capital asset value should consist of both fixed tangible assets (vessel, gear and electronics etc) and intangible assets (estimated value of fishing rights such as quota, licence etc). When calculating the fleet capital asset value, MS are asked to consider using the Perpetual Inventory Method (PIM) and take into account recent advice from the PGECON[13] working group on best practices for calculating fleet depreciated replacement values.

In instances where data on intangible assets are not available, the Return on Fixed Tangible Assets (ROFTA) should be calculated instead, using exactly the same calculation method but without including an estimated value for fishing rights.

The ROI (or ROFTA) as calculated represents the profitabily per unit (in percentage) of capital invested in the fisheries sector.

ROI (or ROFTA) would then be compared to the interest rate of a low risk long term investment calculated as proposed above. That interest rate respresents the profitability that the same invested capital will obtain if it was invested in the next best available alternative (normally long term government bonds).

The resulting formula for the indicator would be *ROI – low risk long term interest rate.*

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[13] Planning Group on Economic Issues (PGECON), 16th – 19th April 2012, Salerno (Italy)

If the capital asset value is not available or is missing for some years or is not reliable for any reason, MS could use net profit in percentage to do the above comparison. In any event, MS would need to state which indicator they have used for what period and fleet segment.

11.2 Application and interpretation

Values of ROI positive and greater than the low risk long term interest rate would result in a positive value of the indicator suggesting that extraordinary profits are being generated, a sign of economic under-capitalisation. Values of ROI positive but smaller than the low risk interest rate would yield negative values for the indicator indicating that in the long term it would more beneficial to invest elsewhere which is a sign that probably the fleet is overcapitalised and therefore economically inefficient. Negative ROIs can by themselves indicate economic over-capitalisation.

Calculation example (assuming a low risk long term interest rate of 5%)

Values for calendar year (€000)	Fleet segment 1	Fleet segment 2	Fleet segment 3
Income from landings + other income	1500	700	1000
Crew costs + unpaid labour costs + fuel costs + repair & maintenance costs + other variable costs + non variable costs	800	481	850
Capital costs (depreciation + interest payments	400	200	200
Net profit	300	39	-50
Fleet capital asset value (vessel replacement value + estimated value of fishing rights)	2000	1500	1500
ROI = Net profit / capital asset value	15%	2.6%	-2.5%
ROI – risk free long term interest rate	+10%	-2.4%	-7.5%

11.3 Ratio between current revenue and break-even revenue

The break even revenue (BER) is the revenue required to cover both fixed and variable costs so that no losses are incurred and no profits are generated. The current revenue (CR) is the total operating income of the fleet segment, which consists of income from landings and non fishing income. All data for this calculation should be available under

the Member States DCF national programmes except for opportunity costs. Data on direct income subsidies should be excluded from the calculation. In addition, income and expenditure from the lease of fishing rights, if available, should be included in the calculation. The inclusion of such data should be mentioned.

The formula for calculating the BER is as follows:

BER = (Fixed Costs) / (1- [Variable costs / Current Revenue])

Where:

Variable costs =

Crew costs + Unpaid labour + Energy costs + Repair and Maintenance costs + other variable costs

And where:

Fixed costs = Non variable costs + depreciation

And current income = income from landings + other income

The ratio is calculated by dividing the current revenue by the BER i.e.

Ratio   =   Current Revenue (CR) / BER

The calculation of the ratio as indicated above gives a short terrm view of financial viability. Should data permit, MS could also opt for providing an economic long term viability analysis of CR/BER. Doing so would require adding opportunity costs to fixed costs:

Fixed costs = Non variable costs + depreciation+ opportunity cost of capital

*Opportunity cost of capital = capital asset value * low risk long term interest rate.*

MS will need to state which CR/BER concept they are using.

11.4 Application and interpretation

The ratio between a fleets current revenue and break-even revenue shows how close the current revenue of a fleet is to the revenue required for the fleet to break even in the short term. If the ratio is greater than 1, then enough income is generated to cover variable, fixed and capital costs, indicating that the segment is profitable, with potential under-capitalisation. Conversely, if the ratio is less than 1, insufficient income is generated to cover variable, fixed and capital costs, indicating that the segment is unprofitable, with potential over-capitalisation. If the CR/BER result is negative, this means that variable costs alone exceed current revenue, indicating that the more revenue is genertated, the greater the losses will be.

If depreciation and the opportunity cost of capital parameters are omitted from the calculation, the ratio only gives an indication of how much income is required to cover operating costs only in the short term without looking at whether there are extraordinary profits. The inclusion of these concepts will add a long term view about expectations of future viability of the fleet but to some extent will overlap with use of the ROI (or ROFTA) as a long term indicator.

Calculation example: Ratio of Current revenue to Break-even revenue (CR/BER)

	Values for a calendar year (€000) Use Segement total figures	Fleet segment 1	Fleet segment 2
1	Current revenue (CR) = Income from landings + other income	113 000	115 000
2	Fixed costs = Non variable costs + depreciation + opportunity cost of capital	24 000	28 000
3	Variable costs = Crew costs + Unpaid labour costs + Energy costs + Repair & maintenance costs + Other variable costs	90 000	85 000
4	BER = 2 / (1 - [3 / 1])	117 913	107 333
5	CR / BER = 1 / 4	0.96	1.07

12. VESSEL USE INDICATORS

12.1 The Inactive Fleet Indicator

Inactive vessels constitute an unused capacity and as such they reduce the overall technical efficiency and capacity utilisation rate of the total fleet. The indicator is calculated on the basis of DCF segment vessel length-classes rather then vessel segments as information on gear and target fishery is not available. A table showing the proportion of inactive vessels of the total fleet should be provided with respect to number of vessels, GT and kW.

12.2 The Vessel utilisation Indicator

The vessel utilisation indicator is the average, for each fleet segment, of the ratio of the effort actually deployed to the maximum effort that could be exerted by the fleet. This indicator is based on what are expected to be reliable data and provides a quickly-calculated assessment of fleet utilisation in prevailing circumstances for the fishing activity. There are two versions of this indicator, based on either observed or theoretical maximum activity levels. Member States should make a choice as to which is the more appropriate, and report only that indicator to the Commission.

The indicator based on observed maximum activity is calculated as:

The ratio between the average effort per vessel in a fleet segment and the observed maximum effort actually expended by a vessel in the segment (in kWdays or GT-days) in the reference year.

This indicator can also be calculated in term of fishing days, as:

The ratio between average days at sea per vessel and the maximum days at sea observed in a fleet segment.

The other version of the technical indicator is applicable in cases where the observed maximum number of days at sea within a fleet segment for each reference year could have been limited by external factors. There could be economic (e.g., the fuel crisis), environmental (e.g. exceptional weather) and social (e.g., not fishing on weekends) reasons that affect the maximum observed number of days at sea per vessel for certain years, so that this number may not reflect the true technical capacity of the fleet.

In such cases, MS may also calculate the ratio based on the theoretical maximum number of days at sea. For this calculation, the "observed maximum effort actually expended by a vessel in the segment" in the previous calculations is replaced with a theoretical maximum number of days at sea that could be fished if there were no external constraints (e.g. if no effort regime was applied). This value would be assumed to be 220 days as a default value if no data are available, but otherwise should be estimated according to natural, technical and social conditions). This value should be determined by each Member State using an expert judgement and available information.

The chosen indicator should be presented and assessed for a period of several years in order to show whether the ratios are stable over time.

The calculation could be done either in kW-days or GT-days as appropriate to the fleet; e.g. preferring kW for towed gear as as that vessels with larger engines tend to catch more than those with smaller engines and GT-days for passive gears,

12.3 Application and interpretation

Data (days at sea per vessel, GT and KW) are available at Member State level from data collection according to the requirements of the DCR and DCF. However, the maximum number of days at sea is an additional calculation that is currently external to the basic DCF, but a data call will be issued annually concerning this parameter.

All active vessels in the fleet should be taken into account when calculating this indicator. An active vessel is one which was licensed to fish at some stage during the reference year and which recorded at least one day at sea during the reference year. An inactive vessel is one which may or may not be licensed to fish during the reference year, but which has recorded no time at sea and no landings during the reference year.

These indicators shows by how much fleet capacity could be reduced without reducing overall fleet output (landings). The technical indicator can therefore be considered the baseline indicator for each fleet segment.

The margin between the calculated value and 1 indicates the technical under utilisation of the vessels. For the "traffic light system", an indicator of more than 0.9 (i.e. where average activity is more than 90% of maximum activity) will only be observed in fleet segments showing a largely homogeneous level of activity, which could be classed as a green light in practice. Values (depending on fleet homogeneity), below 0.7 could be considered as showing substantial under-utilisation which may indicate technical overcapacity (red light).

If a theoretical maximum number of days is used instead of the observed maximum number of days, significant differences may appear between the values of the technical indicator calculated and care should be taken to explain implications.

Calculation example: Ratio between actual per vessel effort deployed and maximum effort (observed and theoretical) for a group of three vessels.

Vessel	Capacity [1]		Current effort [2]		Maximum effort (based in observed max.) [3]		Theoretical max effort [4]		Technical indicator (obs.) [5]	Technical indicator (theor.) [6]
	kW	days	kW days	days	kW days	days	kW days		
Vessel 1	100	80	8 000	150	15 000	220	22 000	0.53	0.36
Vessel 2	200	110	22 000	150	30 000	220	44 000	0.73	0.50
Vessel 3	400	150	60 000	150	60 000	220	88 000	1.00	0.68
			Total 90 000		**Total** 105 000		**Total** 154 000	**Average** 0.86	**Average** 0.58

1) The capacity should be indicated in kW for all segments; where possible, and in particular for passive gear segments it is recommended to use also GT.
2) This column presents the individual vessel activity and effort data.
3) This column contains the maximum utilisation **observed** (150 days) for every vessel of the fleet.
4) This column contains the **theoretical** maximum utilisation (220 days) for every vessel of the fleet.
5) This column shows the calculated technical indictor on the basis of the observed maximum utilisation rate (kWdays in column 2 divided by kWdays in colums 3, then average for the segment)
6) This column shows the calculated technical indictor on the basis of the theoretical maximum utilisation rate (kWdays in column 2 divided by kWdays in colums 4, then average for the segment)

Each Member State should make a choice as to which of the technical indicators to present, as described in Section 7.3. The choice has to be explained.