ANNUAL REPORT ON

THE IRISH FISHING FLEET FOR 2021

Department of Agriculture, Food and the Marine
Ireland

ANNUAL REPORT TO THE EUROPEAN COMMISSION ON THE IRISH FISHING FLEET FOR 2021 (Pursuant to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy)

1. Summary

This report gives a description of the Irish fishing fleet in relation to fisheries developments during 2021, the impact on fishing capacity of fishing effort reduction schemes, information on the compliance with the entry/exit scheme, 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 as well as any information on changes of the administrative procedures relevant to the management of the fleet.

2. MS opinion on balance of fleet capacity & fishing opportunities

The technical indicators as currently set down do not allow for the highly diverse nature of the fleet or the range of natural variation within these segments. For example, the polyvalent segment of the fleet is diverse in terms of size of vessels, geographical spread of activity and species targeted. Also certain specified areas carry effort restrictions, or are subject to seasonal/monthly patterns. It is difficult when dealing with such a wide

variety to compare them all on the same basis so, while the assessment in relation to technical indicators has been carried out, it cannot give an accurate picture until such time as these natural variations can be allowed for within the assessment.

This analysis shows declining economic results for the Irish fleet in 2020 compared to 2019 with 10 segments failing the long-term economic indicator. The main fleet segment of concern is the DTS 18-24m length class which failed both indicators in 2020. While the performance of the 24-40m segment has remained solid even through 2020, the main impacts to this segment are not yet being picked up in data collection. Reduced quotas for *Nephrops* and other whitefish species as a result of the Trade and Cooperation Agreement with the UK will seriously impact the turnover of this fleet segment while general inflation and increasing oil prices will erode profitability over time. Similarly, the pelagic fleet segments have passed both indicators well in the latest years but the impacts facing these are considerable given the quota transfers of mackerel and other species as part of the TCA between the EU and the UK.

Finally, when assessed against the fleet segments defined by the Department of Agriculture, Food and Marine (DAFM), the polyvalent general 18-24m segment fails the RoFTA and the CR/BER. Only the length class of 24-40m polyvalent segment passes both indicators in 2020. The RSW pelagic trawl segments both pass the economic indicators in 2020. However, as there were limited economic data returns for 2020 due to issues around moving the economic survey online along with disruption due to Covid-19, significant uncertainty surrounds these estimates. Overall, the indicators for 2020 are uncertain from the economic point of view. Given the ongoing crises affecting the Irish fleet in 2021 and 2022 it is highly likely that actions will be required to be carried out for a number of fleet segments, including a decommissioning scheme.

With regard to biological indicators, of the 17 fleet segments for which the 2020 Sustainable Harvest Indicator (SHI) was considered meaningful to assess balance or imbalance, 11 fleet segments are in balance with their fishing opportunities. However

preliminary figures for 2020show that 6 segments may not be in balance. Overall there is a clear downward trend in average SHI over time indicating more segments are in balance in 2020. The Stock at Risk (SAR) indicator was available for all the 22 active fleet segments in 2020, 14 of which may be in balance with their fishing opportunities. The report undertakes a detailed analysis of the main stocks targeted by these fleets. This analysis indicates that the diversity within the fleet does not support the view that the fleets are out of balance.

Taking all factors and indicators into consideration, Ireland is of the view that based on the analysis herein; a structural imbalance does not exist with the fleet.

3. Section A

(i) Description of the fleet segments

The Irish fishing fleet is largely a coastal fleet made up of 1,993 vessels, varying in size from in excess of 24 metres to under 12 metres. The fleet operates over five segments: pelagic, polyvalent, beam-trawl, specific and aquaculture. An outline of the 5 fleet segments in the Irish fleet in respect of 2021 is provided below:

(a) **Refrigerated Seawater (RSW) Pelagic Segment:** This segment comprised 23 vessels with a total capacity of 26,259 GT and 47,397 kW.

(b) **Beam Trawler Segment:** This segment comprised 10 vessels, which are dedicated to beam trawling, with a total capacity of 1,139 GT and 2,818 kW.

(c) **Polyvalent Segment:** This segment comprised 1,718 vessels, the vast majority of vessels in the fleet, with a total capacity of 32,790 GT and 116,241 kW. These vessels are multi-purpose and include small inshore vessels (netters and potters), and medium and large offshore vessels.

This segment also includes vessels licensed and registered under the Scheme for the Licensing of Traditional Pot Fishing Boats in the Irish Inshore Fleet. The scheme for the registration of previously unregistered traditional potting boats in the inshore fleet was completed in 2007. These potting vessels may only fish for non-quota species exclusively by means of traps/pots. They are ring-fenced within this segment and the capacity of these boats may not be used elsewhere in the segment for the purposes of compliance with the entry/exit regime.

(d) **Specific Segment:** This segment comprised 145 vessels, with a total capacity of 2,227 GT and 11,908 kW, which are permitted to fish for bivalve molluscs and aquaculture species only.

(e) **Aquaculture Segment:** These vessels must be exclusively used in the management, development and servicing of aquaculture areas. This segment, which comprised 97 vessels, with a total capacity of 4,280 GT and 11,669 kW, is not subject to the entry / exit regime.

Capacity of Irish Fleet on 31 December 2021 (Extracted from Vessel Register Report on 31 December 2021)			
Fleet Segment	**Number of Vessels**	**Gross Tonnage (GT)**	**kilowatts (kW)**
Aquaculture	*97*	*4,280*	*11,669*
Specific	*145*	*2,227*	*11,908*
Polyvalent	*1,718*	*32,790*	*116,241*
Beam Trawl	*10*	*1,139*	*2,818*
RSW Pelagic	*23*	*26,259*	*47,397*
Total	*1,993*	*66,695*	*190,033*

Table 1: Structure of the Irish Fleet 2021

The segmentation of the Irish fishing fleet is provided for by Policy Directive 2 of 2003, as amended by Policy Directive 1 of 2006, Policy Directive 1 of 2011 and Policy Directive 2 of 2011. The transfer of capacity between the segments (or sub-segments) is not permitted, and equivalent "replacement" capacity must be taken out of the segment (or sub-segment) into which a vessel is being introduced. This is known as the "entry/exit regime" and is a requirement since 1 January 2003 under Regulation (EU) No 1380/2013 of the European Parliament and of the Council which repealed and replaced EU Council Regulation 2371/2002.

Of the 1,993 vessels in the Irish fleet, 1,483 are less than 10 metres length overall, 229 vessels are between 10 and 12 metres length overall, 68 vessels are between 12 and 15 metres length overall, 95 vessels are between 15 metres and 24 metres length overall and 118 vessels are greater than or equal to 24 metres length overall.

Traditionally, up to 90% of ownership of the Irish fishing fleet has been vested in skipper/owner, single vessel family operations. However, since 2016, there is a move towards increased body corporate ownership. Since 2016, the number of vessels licenced by a body corporate has increased by 85% from 154 in 2016 to 285 in 2021.

(ii) <u>Link with fisheries</u>

The RSW (Pelagic) Segment is engaged predominantly in fishing for pelagic species such as herring, mackerel, horse mackerel and blue whiting.

Vessels in the Beam Trawler Segment target demersal species such as monkfish, megrim and sole.

Polyvalent vessels are multi-purpose vessels which prosecute a range of fisheries. The species targeted include demersal species, pelagic species, shellfish (e.g. *Nephrops,* crab and lobster) and bivalve molluscs (e.g. scallop, mussel and razor clam).

Vessels in the Specific Segment may target bivalve molluscs and aquaculture species only.

Vessels in the Aquaculture Segment are restricted to use in the management, development and servicing of aquaculture areas. As part of a service to aquaculture installations, such vessels may collect mussel seed, subject to certain restrictions, as have been determined in the context of Regulation (EU) No 1380/2013.

The profile of the Irish fleet in Table 2, below, shows the main target species for each segment.

Fleet Segments	**Main Target Species**	
	Fin Fish	**Shellfish**
(a)Refrigerated Sea Water (RSW) Pelagic	Pelagic (e.g. Mackerel, Herring, Horse Mackerel, Blue Whiting, Boarfish, Albacore)	
(b)Polyvalent (sub-divided into:- Potting Sub-segment; Scallop Sub-segment; ≥ 18 metre length overall Sub-segment and < 18 metre length overall Sub-segment)	Demersal (e.g. Whiting, Haddock, Hake, Cod, Halibut, Sole, Plaice, Monkfish, Megrim, Skate) Pelagic (e.g. Mackerel, Herring, Horse Mackerel, Blue Whiting, Boarfish, Albacore)	Lobster, Crab, *Nephrops*, Shrimp, Whelk, Bi-Valve Molluscs (e.g. Mussels, Scallop, Razor Clam, Clam, Oyster etc.) *Nephrops*, Scallop
(c)Beam Trawl	Demersal (e.g. Whiting, Haddock, Hake, Cod, Halibut, Sole, Plaice, Monkfish, Megrim, Skate)	
(d)Specific	N/A	Farmed species and wild Bi-Valve Molluscs (e.g. Mussels,

(sub-divided into Scallop Sub-segment and General Sub-segment)		Scallop, Razor Clam, Clam, Oyster etc.)
(e) Aquaculture	Farmed species only	Farmed species only

Table 2: Irish Fleet Profile

(iii) <u>Development in fleets</u>

Compared with 2020, the RSW (Pelagic) Segment did not change in terms of number of vessels. The capacity in the RSW (Pelagic) Segment increased by 1,383 GT and 288 kW during 2021.

The Beam Trawler Segment did not change in terms of the number of vessels, nor was there any change in on-register capacity in this segment during 2021.

The Polyvalent Segment decreased by 4 vessels but the capacity registered in the segment increased by 408 GT and 686kW kW in 2021.

The Registrar General of Fishing Boats carries out periodic reviews of the Register to identify and follow up on registered vessels whose sea-fishing boat licences have lapsed. Under this review in 2021, zero vessels were compulsorily de-registered and 1 vessel was voluntarily de-registered.

The Specific Segment decreased by 2 vessels while the capacity registered in the segment decreased by 10 GT and 124 kW in 2021.

The Aquaculture Segment increased by 1 vessel.

Figure 1 illustrates the number of vessels in the Irish Fleet since 2005 which grew to a maximum of 2,217 vessels in 2012, but which has since declined to 1,993 vessels in 2021.

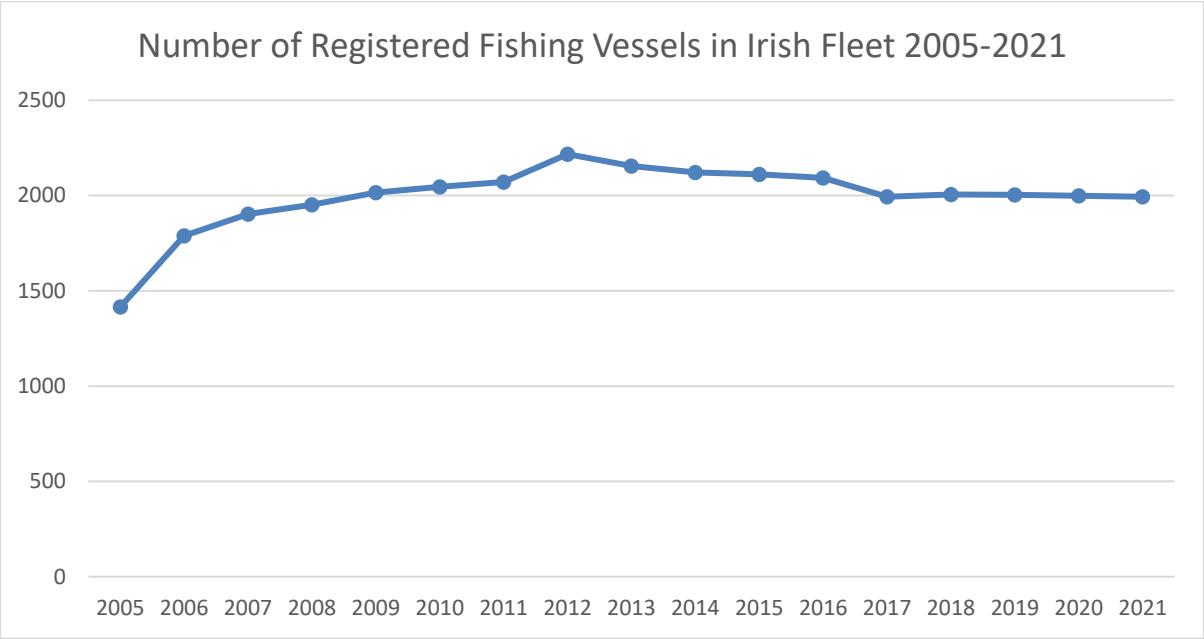


Figure 1:Number of vessels in the Irish Fleet since 2005.

The increase in the number of vessels since the year 2006 is mainly due to (a) the number of vessels regularised (i.e. registered and licensed) under the Special Inshore Schemes, (b) the number of Aquaculture vessels registered and licensed and (c) the tendency to replace larger vessels with smaller vessels for economic reasons.

Figures 2 and 3 illustrate the capacity of the Irish fleet from 2014 to 2021, measured in Gross Tonnes and kW. The fleet capacity ceiling was set on 1 January 2014 for the Irish fleet under Regulation (EU) No 1380/2013 at 77,568 GT and 210,083 kW.

The Irish fleet makes up just 2.5% of the EU fleet in terms of numbers of vessels but holds capacity just above this percentage.

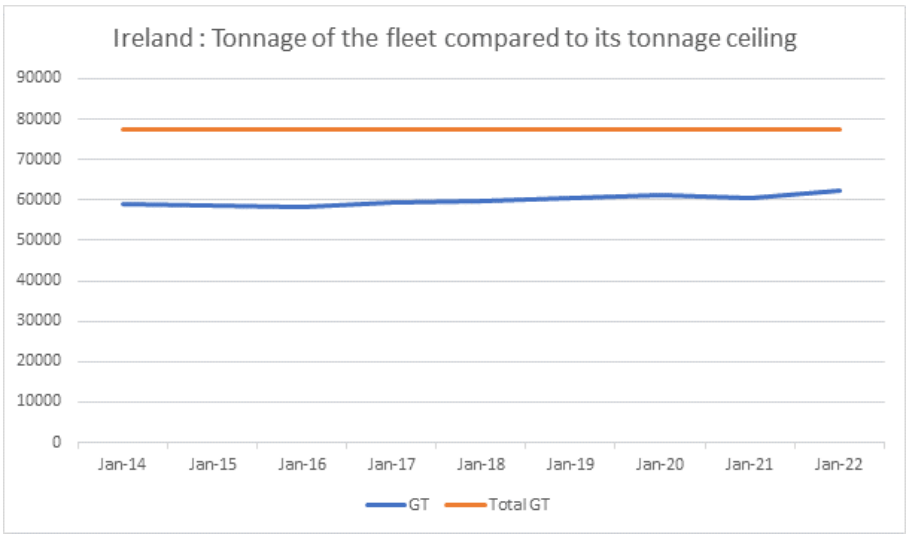


Figure 2: Capacity of the Irish Fleet in Gross Tonnes Jan 2014-Jan 2021

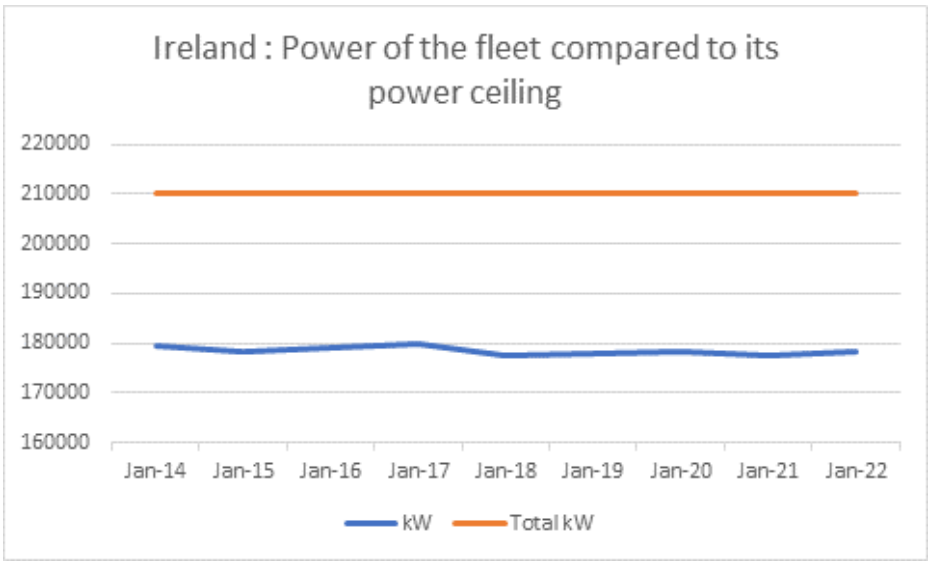


Figure 3: Capacity of the Irish Fleet in kW Jan 2014-Jan 2021

4. Section B

(i) Statement of Effort Reduction Schemes

Fishing Effort – Stock Recovery plans

The Irish demersal fisheries coming within the scope of stock recovery plans (ICES Area 6a and 7a) are of a highly mixed nature. Specific measures in place in each area are as follows:

Area 6a

Since 2009, Ireland has introduced a seasonal closure in statistical rectangle 39E3, for the protection of juvenile cod as the area was identified as a vulnerable spawning area. Historically, over 40% of Irish cod landings in 6a had been attributed to this area. In its submission to the Commission in 2012, Ireland anticipated that the closure would result in a reduction of cod catches of 24% in 2012. This closure has since been modified and implemented under EU legislation (Regulation (EU) 2019/1241). The area boundary has been defined in line with STECF advice and the closure is effective for 6 months of the year from 1 October to 31 March.

Area 7a

A range of new selectivity measures were introduced under the Technical Measures Regulation (2019/1241). This Regulation included the setting of minimum conservation references sizes, mesh sizes and defined closed or restricted areas. These closed areas include a part of the Irish Sea that is closed from 14 February to 30 April to protect spawning cod. During this period, it is prohibited to use any demersal trawl, seine or similar towed net, any gillnet, entangling net or trammel net or any fishing gear incorporating hooks. Demersal trawls are only permitted in the area if they are fitted with STECF assessed selective gears.

In addition to the above, seasonal closures are also in place for the Porcupine Bank in Areas 7c and 7k (directed fisheries for Nephrops and associated species prohibited from 1 May to 31 May each year) and the Celtic Sea Conservation Area (closed to all fishing activity from 1 February to 31 March each year). These measures are set out in Regulation (EU) 2019/1241.

Western Waters Effort Regimes:

The table below sets out the maximum annual fishing effort for Ireland for certain fishing areas and fisheries as set out in COUNCIL REGULATION (EC) No 1415/2004.

Maximum Allowable Fishing Effort (kW. Days) in Western Waters

Area	Vessel Length	Demersal	Scallops	Crab
5,6	≥ 15m	2,324,932	5,766	465,000
7	≥ 15m	7,904,120	525,012	40,960
BSA*	≥ 10m	7,154,490	109,395	63,198

- biologically sensitive area referred to in Article 6 of Regulation (EC) No 1954/2003

Ireland operates within the limits as set out above except in the case of Crab Effort in the BSA whereby a swap with another member state is negotiated, as required, on an annual basis to increase Ireland's maximum allowable fishing effort.

Fleet Restructuring

In 2005/2006 and 2008, Ireland implemented two fleet decommissioning schemes. The 2005/2006 Scheme removed 3,323 GT, while the 2008 Scheme removed 6,914 GT. In March 2021, the Minister for Agriculture, Food and the Marine established a Seafood Task Force to examine ways in which the impacts of Brexit and the EU-UK Trade and Co-Operation Agreement can best be mitigated. The Report of the Seafood Task Force recommended a permanent cessation scheme to take out 8,000 gross tonnes from the whitefish fleet, equivalent to 26% of Ireland's whitefish fleet, at an estimated cost of €59 million and recommended to be funded under the Brexit Adjustment Reserve. The draft scheme has been sanctioned by the Department Public Expenditure and Reform and a State Aid Notification has been submitted to the Commission.

(ii) Impact on fishing capacity of effort reduction schemes

As a result of significant changes to the recovery plan operation in 2009 there were reductions in fleet activity in Areas 6a and 7a, but it is difficult to gauge the full impact on fishing capacity of fishing effort reduction schemes.

In 2011, a Value for Money Review of the two fleet decommissioning schemes was concluded. The Value for Money Review was undertaken in accordance with Ireland's Value for Money and Policy Review Initiative which was introduced to secure improved value for money from public expenditure. VFM reviews aim to analyse Government spending in a systematic manner and provide a basis on which more informed decisions can be made on priorities within and between programmes. While the report was not published until 2012, it was shared with the Commission in 2011.

The review examined the efficiency and effectiveness of the Whitefish Decommissioning Schemes. Overall, the conclusions of the VFM Review were that the 2008 Scheme, co-funded by the European Fisheries Fund, was good value for money, in that it achieved its objectives in an efficient manner, with extremely low deadweight cost and it improved the quota availability to and viability of the remaining whitefish fleet.

5. Section C

Statement of Compliance with Entry/Exit Scheme & with Fleet Capacity Ceiling

Regulation (EU) No 1380/2013 set Ireland's Fleet Capacity Ceiling on 1 January 2014 at 77,568 GT and 210,083 kW.

The total capacity which entered the fleet between 2014 and 2021 was 15,545 GT and 52,736 kW. The total capacity which exited the fleet between 2014 and 2021 was 14,427 GT and 56,863 kW (no capacity was decommissioned).

The term "capacity exiting the fleet" refers to capacity coming off-register due to a vessel de-registration or due to a vessel being decommissioned i.e. Decommissioning Schemes. The term "capacity entering the fleet" refers to capacity temporarily off-register from de-

registered vessels used to license new/replacement vessels. The capacity of a de-registered vessel can re-enter the fleet whereas the capacity of a vessel decommissioned with public aid cannot as it is permanently withdrawn.

Fishing Capacity at 31 December 2021 (Extracted from Fleet Register 31 December 2021)

Table 3: Overall fishing capacity situation of the Irish fleet 2021

	GT	kW
Capacity of the Fleet on 31/12/2013	59,516	181,641
2014 to 2021 Entries of Vessels Without Public Aid	20787	63,728
2014 to 2021 Exits of Vessels Without Public Aid	17,888	67,005
Capacity of the Fleet on 31/12/2021	62,415	178,364
Fleet Capacity Ceiling 31/12/2020	77,568	210,083

6. Section D

(I) Summary of Weaknesses & Strengths of Fleet Management System

Fleet management in Ireland involves a number of tools that act upon the Irish fleet and other tools that act upon the impact of the fleet on Irish fisheries. Fleet management tools include the specification of the five Irish segments mentioned previously in section 1A, licensing of sea-fishing boats, gear and vessel restrictions associated with the licensing

process and a decommissioning scheme carried out in the period 2005 to 2008. Fishery management policy is developed through a transparent and inclusive system.
The Irish fish quota management system is designed to ensure, having regard to fishing patterns and market conditions, a fair and rational allocation of quotas between fishing vessel operators and management to support fishing seasons and the availability of by-catch quotas during the year. The management arrangements have been set and developed over many years since the commencement of the Common Fisheries Policy (CFP) and the introduction of quotas. Any amendments or changes to the policy on management arrangements are determined by the Minister for Agriculture, Food and the Marine following detailed analysis and full consultation with stakeholders. Within the Minister's policy, allocations and other arrangements are decided by the Minister on an ongoing basis having regard for the advice of the Quota Management Advisory Committee (QMAC). This Committee is a formal consultative committee, involving fishing industry representatives from the catching, inshore and processing sectors. The QMAC is in place at the discretion of the Minister and is chaired by the Department.

The QMAC currently meets on a monthly basis. The purpose of these meetings is for the industry representatives to make recommendations to the Minister on monthly/bimonthly/quarterly catch limits for particular demersal stocks. The Minister has regard for the recommendations, subject to the proper management and rational exploitation of our fisheries. Additional meetings are organised as required to discuss specific issues in particular fisheries that may arise.

The strengths of the fleet management system include; the strict control exercised by Ireland's Registrar General of Sea Fishing Boats (Ireland's licensing authority for the fleet) over the entry/exit regime and the fleet remained within its reference level; the logical segmentation of the fleet; vessel catch limits are recommended to the Minister by the QMAC on a monthly basis for certain stocks (in particular demersal stocks) taking account of the situations of both the fleet and the market and the success of the last decommissioning scheme carried out in the Irish fleet.

The weaknesses in the fleet management system include; overcapitalisation evident in parts of the fleet; challenges in responding to the Landing Obligation which may to lead to exacerbation of economic indicators signalling further overcapitalisation, particularly in the smaller and medium sized polyvalent fleet.

(II) Plan for improvements in fleet management system

Over the period 2014-2020, Ireland has operated a grant aid scheme to modernise the Irish fishing fleet. This was funded under the European Maritime and Fisheries Fund (EMFF). This scheme funds improvements to vessels in on board handling to increase the value of landings as well as the use of selective gear to target larger more valuable fish and reducing unwanted catches with low or no value which must be landed under the landing obligation.

(III) Information on general level of compliance with fleet policy instruments

Each Member State is required to ensure that from 1 January 2014, the fishing capacity of its fleet does not, at any time, exceed the Fishing Capacity Ceiling set. Relative to the Irish fleet this is achieved by managing entries into its' fleet and exits from the fleet in a manner whereby each entry of new capacity into the fleet, is compensated, without public aid, by the previous withdrawal of at least the same amount of capacity, again without public aid, as reflected in the 2021 capacity figures at Table 3 above. This mechanism is known as the "entry/exit regime".

7. Section E

(i) Information on changes of the Administrative Procedures Relevant to Fleet Management

Fleet Policy Directives

Under section 3(2) of Ireland's Fisheries (Amendment) Act 2003 (as amended by section 99 of the Sea Fisheries and Maritime Jurisdiction Act 2006), the Minister may from time to time issue policy directives to the Registrar General of Sea-fishing Boats in relation to sea-fishing boat licensing for the purposes of protecting, conserving or allowing the sustainable exploitation of living marine aquatic species. No new policy directives were issued in 2021.

Council Regulation 1224/2009

SI 54 of 2016 (which replaces SI 320 of 2012 and SI 453 of 2012) implements Council Regulation (EC) No. 1224/2009 of 20 November 2009 and Commission Implementing Regulation (EU) No. 404/2011 of 8 April 2011 as they relate to fisheries control systems and rules for the recording of fish catches. This Statutory Instrument gives the Marine Survey Office, Sea Fisheries Protection Authority and the Navy the necessary powers to implement the requirements of these regulations in particular in relation to monitoring, certification and verification of engine power.

8. Section F

Estimation & Discussion of Balance Indicators

Summary of Biological Indicators

The estimation and discussion on balance indicators are based on Tables extracts from the JRC website on 7th April 2022 for Sustainable Harvest Indicators (SHI) and Stock at Risk Indicators (SAR) related to the Irish fleet segments (https://stecf.jrc.ec.europa.eu/reports/balance). Table 1 (see page 29) gives the Synthesis of indicators and trends for Ireland in Supra Region Area 27, for all gears and

all vessel lengths.. The discussion material is based on these tables and the comments for Ireland from the 2020 STECF report – Assessment of balance indicators for key fleet segments and review of national reports on Member States efforts to achieve balance between fleet capacity and fishing opportunities (STECF-21-16). Annex 1 gives the Fishing Technologies – DCF categories used in Table 1 and Table 2. Annex 2 is a map of supra region 27.

The Guidelines referred to in this document are Com (2014) 545 FINAL - 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.

Indicators

This section should be read while referring to Table 1. The Sustainable Harvest Indicator (SHI) presented in Table 1 is designed to reflect the extent to which a fleet segment is dependent on stocks that are over harvested, where 'over harvested' is assessed with reference to F_{msy} values over time, and dependency is based on fleet segment revenues (value of landings).

The SHI is calculated using landings value for 2008-2020 for every fleet segment for which data were available. Data on Fcurrent (mean F) and Fmsy for fish stocks found in FAO Area 27 were obtained from the ICES online database. For FAO area 37 the most recent estimate of Fcurrent and Fmsy (or its proxy F0.1) were extracted from the database compiled by JRC

Comments on balance (status 2020): SHI ≥ 1 'out of balance'; SHI < 1 'in balance' (as according to the 2014 Balance Indicator Guidelines as requested by the TOR)

Green cells indicate SHI values that were calculated where 40% or more of the fleet segment's annual landed value came from assessed stocks (an indication that the SHI value is representative).

Trend analysed for the period 2014-2020, using the slope equation and a 5% threshold to indicate significance, as: Slope > 0.05 increasing; Slope < -0.05 decreasing; -0.5 < Slope < 0.5 no significant trend and slope = 0 flat/null trend. For trends to be calculated, the last 3 years of data must be available.

The Stock at Risk indicator (SAR) presented in Table 1 aims to measure how many stocks are being affected by the activities of a fleet segment that are biologically vulnerable.

SAR is calculated for the years 2009-2020 for all fleet segments for which data were available.

Comment on balance (status in 2020): SAR ≥ 1 'out of balance'; SAR < 1 'in balance'; (as according to the 2014 Balance Indicator Guidelines as requested by the TOR). No SAR found when SAR = -1

Coverage is indicated by the availability of data (landings in weight)

Comments on SHI Indicator Findings for Ireland

Table 1 gives the Sustainable harvest indicator (SHI) for Ireland in Supra Region 27 for all gear and all vessel lengths by year for 2020.

Out of 29 fleet segments active in 2020, SHI indicator values were available for 23. According to the criteria in the 2014 Commission guidelines, the SHI indicator values for 6 fleet segments cannot be used meaningfully to assess the balance or imbalance because the indicator values are based on stocks that comprise less than 40% of the total value of landings by those fleet segments.

The 17 fleet segments for which the SHI indicator may be considered meaningful to assess balance or imbalance, accounted for around 75% of the total value of the landings in 2020 provided by MS, and were as follows:

- **11 fleet segments** may be **in balance** with their fishing opportunities;
  - demersal trawlers and/or demersal seiners (DTS) in the 10-12, 12-18m, 18-24m and 24-40m categories;
  - Pot vessels (FPO) in the 10-12 and 12-18m category
  - Hook and line (HOK) vessels in the 10-12m category
  - the beam trawlers (TBB) in the 18-24m and 24-40m length category and
  - the pelagic trawlers (TM) in the 12-18m length categories.
- **6 fleet segments** may be **out of balance** with their fishing opportunities.
  - demersal trawlers and/or demersal seiners (DTS) in the 10-12, 12-18, 18-24, 24-40m length category;
  - the pelagic trawlers (TM) in the , 24-40m and the >40m length categories.

Trends could be calculated for 18 segments:

- 11 fleet segments displayed a decreasing trend,
  - These included demersal trawlers and/or demersal seiners (DTS), beam trawlers and pelagic trawlers.
- 4 fleet segments displayed no clear trend.

The overall trend for all fleet segments was analysed over the full time series. This shows a clear downward trend over time with the 2020 smoothed average estimate below 1 for the first time. This indicates that on average fleets are more in balance.

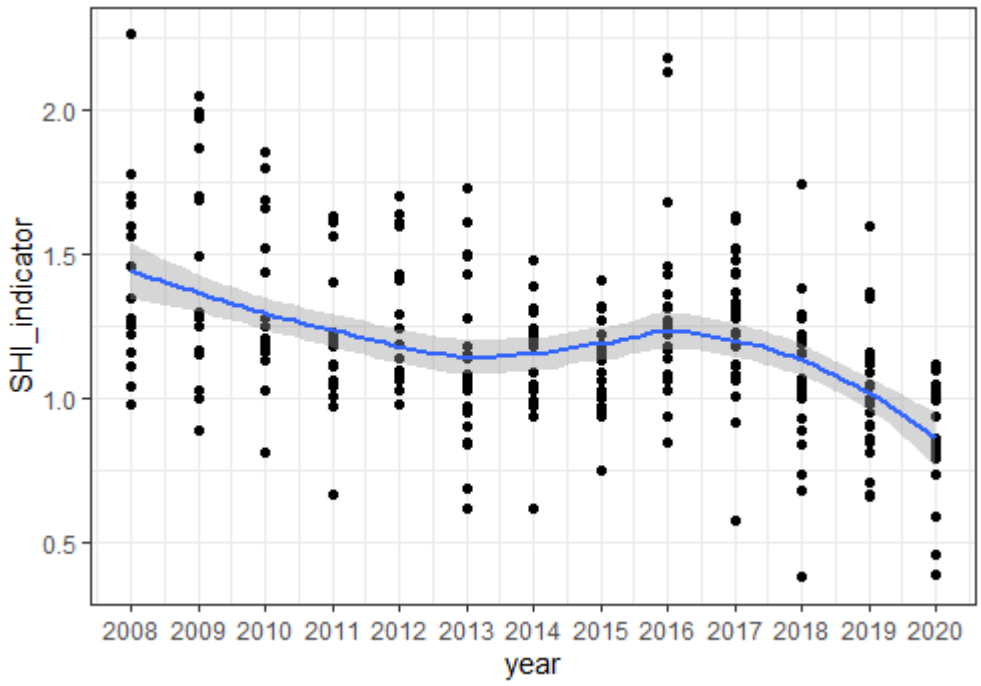


Figure 1. Time series of SHI indicator for Irelands fleet segment. Each black dot indicates a fleet segment and the blue line is a time series loess smoother.

Comments on Fleet Segments that may not be in balance for SHI

The total number of fleet segments that may not be in balance for SHI is similar to last year.

DFN Drift and/or fixed netters

- 25 Vessels active in 2020.
- The main stocks target by vessels in this segment are hake and Pollack in area 7. The most recent ICES assessment indicates that the hake stock is in good condition and is sustainably fished and the Irish vessels may up a small component of the total hake fishery,

TM (midwater trawls) 24-40m

- 14 active vessels in 2020.

- The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and albacore tuna. Blue whiting was fished above MSY in 2021 but the stock size is well above MSY $B_{trigger}$. The reason for the high exploitation on these stocks is due to lack of international agreement with different coastal states setting autonomous TAC's the sum of which exceeds the catch advised from ICES. The landings from this fleet are within the quota allocated to Ireland. Horse mackerel was not exploited sustainably and the biomass was at increased risk in 2021. Mackerel and Albacore tuna are sustainably exploited.

TM (midwater trawls) >40m

- 20 active vessels in 2020.
- The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and boarfish. Blue whiting was fished above MSY in 2021 but the stock size is well above MSY $B_{trigger}$. . The reason for the high exploitation on these stocks is due to lack of international agreement with different coastal states setting autonomous TAC's the sum of which exceeds the catch advised from ICES. The landings from this fleet are within the quota allocated to Ireland. Mackerel is sustainably exploited. Horse mackerel was not exploited sustainably and the biomass was at increased risk in 2021. The stock status of boarfish is unknown but catches were below the ICES advice.

Comments on SAR Indicator Findings for Ireland

Table 1 gives the Stocks at Risk Indicator (SAR) for Ireland in Supra Region 27 for all gear and all vessel lengths by year for 2020.

SAR indicator was available for 22 fleet segments in 2020. For 8 fleet segments, one or more stocks-at-risk were detected:

- 1 fleet segment with 7 stocks-at-risk,
  - demersal trawlers and/or demersal seiners (DTS) in the 24-40m length category

- 1 fleet segment with 5 stocks-at-risk,
    - demersal trawlers and/or demersal seiners (DTS) in the 18-24m length category
- 1 fleet segments with 4 stocks-at-risk,
    - the pelagic trawlers (TM) in the 24-40m length category
- 1 fleet segments with 3 stocks-at-risk.
    - the pelagic trawlers (TM) >40m length categories.
- 4 fleet segments with 1 stocks-at-risk.
    - the pelagic trawlers (TM) 10-12 m, length categories
    - demersal trawlers and/or demersal seiners (DTS) in the 10-12m and 12-18m length categories
    - Hook and line in the 10-12m length categories

Comments on Fleet Segments that may not be in balance for SAR

DTS (demersal trawls/seines) 24-40m and 18-24m

- 102 vessels active in 2020
- This fleet has catches of several stocks that are considered biologically vulnerable, Celtic Sea Sea cod and whiting, Irish Sea cod and whiting, west of Scotland cod and whiting . . These stocks are taken as a by-catch in mixed fisheries mainly targeting Nephrops, Megrim and monkfish and catches of vulnerable stock accounts for a small percentage of of the catches of this segment. Catches of all vulnerable stocks are very minor compared to the sustainably fished target species and various avoidance and technical measures are in place to reduce by-catches of vulnerable stocks.

TM (midwater trawls) 24-40m and >40m

- 34 active vessels in 2020.
- This fleet has catches of 3-4 stock that is considered biologically vulnerable in 2020. The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel

and albacore tuna. Blue whiting was fished above MSY in 2021 but the stock size is well above MSY $B_{trigger}$. . The reason for the high exploitation on these stocks is due to lack of international agreement with different coastal states setting autonomous TAC's the sum of which exceeds the catch advised from ICES. The landings from this fleet are within the quota allocated to Ireland. Horse mackerel was not exploited sustainably and the biomass was at increased risk in 2021. Celtic Sea herring was exploited sustainably in 2021 but remains below B_{lim}.

Conclusion

Over time the trend in indicators of balance between the fleet and the resource has improved and in 2020 the average SHI is below 1 for the first time (Figure 1). However this is likely to change in 2021 with the impact of quota reductions impacting on the Irish fleet as a result of BREXIT and the TCA.

We do not consider that it is valid to state that the stock is over-exploited each time F is slightly above F_{msy}, in fact there is a range around F_{msy} that is consistent with maximising yield and the Precautionary Approach. Stocks are only over exploited when they are consistently fished above F_{pa}.

In relation to the fleets that may be out of balance in relation to SAR, In general Irish fleets take minor catches of the vulnerable stocks but without access to the international data used, it is not possible to assess whether fleets take more than 10% of the landings of a vulnerable stock.

TABLE 1: Ireland - Synthesis of indicators and trends for Supra Region Area 27; all gears and all vessel lengths. This table was extracted from https://stecf.jrc.ec.europa.eu/reports/balance
STECF 21-16 - Balance capacity - indicator table.xlsx .

in balance
Not in balance
deteriorating
improving
no clear trend

						Status 2020 according to thresholds and criteria in the 2014 Guidelines		Trends 2015-2020
MS	SR	FT	VL	FS name	N vessels	SAR	SHI	SHI
IRL	NAO	DFN	VL0010	IRL NAO DFN0010	192			
		DFN	VL1012	IRL NAO DFN1012	10			
		DFN	VL1218	IRL NAO DFN1824 *	7			
		DFN	VL1824	IRL NAO DFN1824 *	7			
		DFN	VL2440	IRL NAO DFN1824 *	1			
		DRB	VL0010	IRL NAO DRB0010	130			
		DRB	VL1012	IRL NAO DRB1012 *	31			
		DRB	VL1218	IRL NAO DRB1012 *	6			
		DRB	VL1824	IRL NAO DRB2440 *	2			
		DRB	VL2440	IRL NAO DRB2440 *	5			
		DTS	VL0010	IRL NAO DTS0010	45			
		DTS	VL1012	IRL NAO DTS1012	12			
		DTS	VL1218	IRL NAO DTS1218	31			
		DTS	VL1824	IRL NAO DTS1824	58			
		DTS	VL2440	IRL NAO DTS2440	44			
		FPO	VL0010	IRL NAO FPO0010	577			
		FPO	VL1012	IRL NAO FPO1012	80			
		FPO	VL1218	IRL NAO FPO1218 *	21			
		FPO	VL1824	IRL NAO FPO1218 *	1			
		FPO	VL2440	IRL NAO FPO1218 *	2			
		HOK	VL0010	IRL NAO HOK0010	57			
		HOK	VL1012	IRL NAO HOK1012 *	11			
		TBB	VL1824	IRL NAO TBB2440 *	5			
		TBB	VL2440	IRL NAO TBB2440 *	9			
		TM	VL1012	IRL NAO TM 1012 *	5			
		TM	VL1218	IRL NAO TM 1218 *	5			
		TM	VL1824	IRL NAO TM 1218 *	3			
		TM	VL2440	IRL NAO TM 2440	14			
		TM	VL40XX	IRL NAO TM 40XX	20			
		INACTIVE	VL0010	IRL NAO INA0010	431			
		INACTIVE	VL1012	IRL NAO INA1012	91			
		INACTIVE	VL1218	IRL NAO INA1218	18			
		INACTIVE	VL2440	IRL NAO INA2440	4			
IRL Total					1935			

ANNEX 1

FISHING_TECHNIQUE – DCF categories used in Table 1 and Table 2

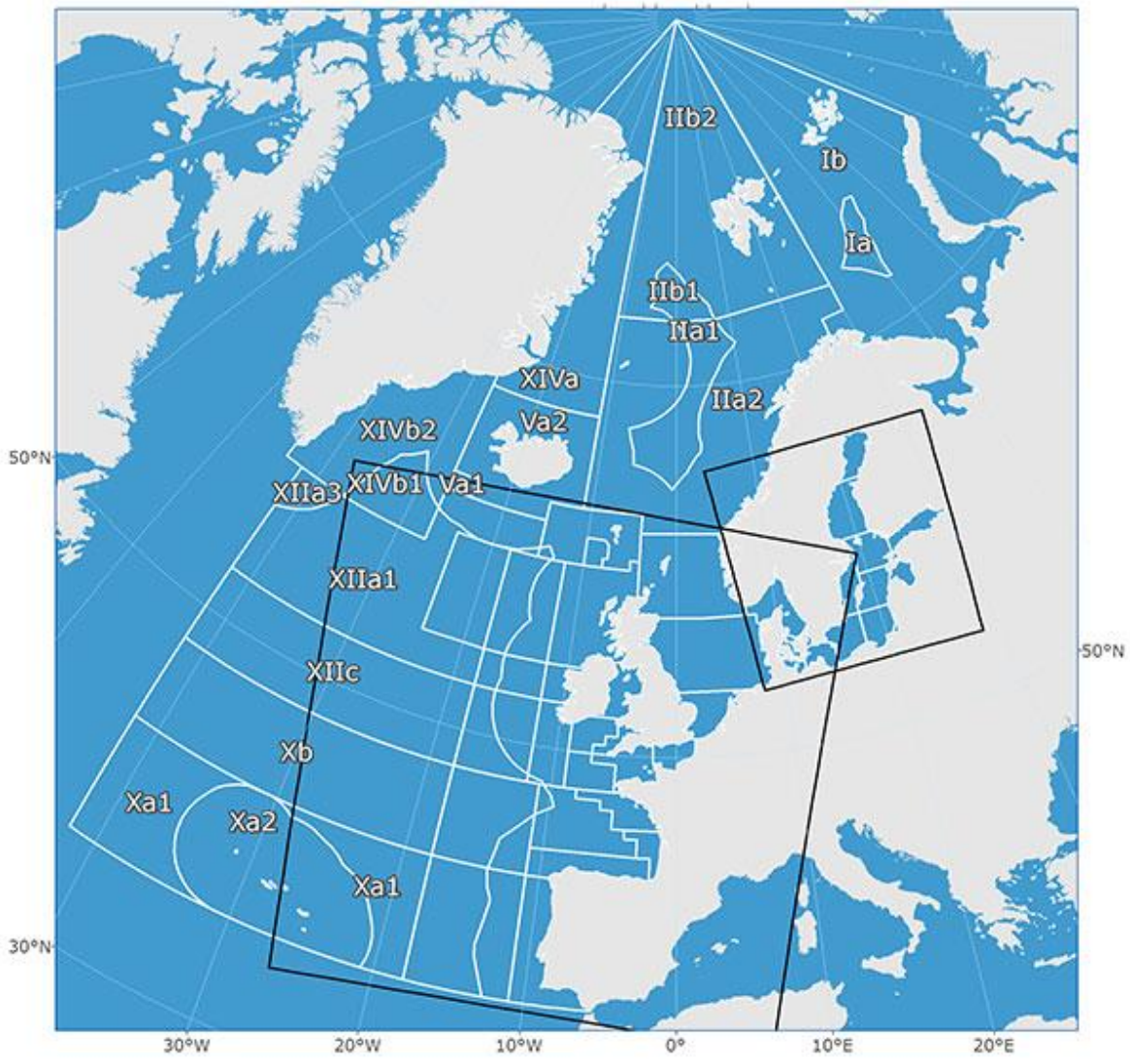
DFN	=	Drift and/or fixed netters
DRB	=	Dredgers
DTS	=	Demersal trawlers and/or demersal seiners
FPO	=	Vessels using pots and/or traps
HOK	=	Vessels using hooks
MGO	=	Vessel using other active gears
MGP	=	Vessels using polyvalent active gears only
PG	=	Vessels using passive gears only for vessels < 12m
PGO	=	Vessels using other passive gears
PGP	=	Vessels using polyvalent passive gears only
PMP	=	Vessels using active and passive gears
PS	=	Purse seiners
TM	=	Pelagic trawlers
TBB	=	Beam trawlers

VESSEL_LENGTH classes

VL0010	=	Vessel between 0 meters and 10 meters in length
VL1012	=	Vessel between 10 meters and 12 meters in length
VL1218	=	Vessel between 12 meters and 18 meters in length.
VL1824	=	Vessel between 18 meters and 24 meters in length.
VL2440	=	Vessel between 24 meters and 40 meters in length.
VL40XX	=	Vessel greater than 40 meters in length.

Annex 2

Supra Region Area 27 - Baltic Sea, North Sea, Eastern Arctic, North Atlantic;



The boundaries of the Atlantic, Northeast (Major Fishing Area 27) corresponding to the ICES fishing areas for statistical purposes. (Source: http://www.fao.org/fishery/area/Area27/en)

Estimation & Discussion of Balance Indicators

2. Economic Indicators

The Annual Economic Report (AER), the STECF Working Group on balance between fleet capacity and fishing opportunities (STECF-15-02), and the DG Fisheries and Maritime Affairs Guidelines for analysis of the balance between fishing capacity and fishing opportunities **ALL** have distinct definitions of the economic indicators.

The fact that these indicators have not been harmonised creates confusion and leads to member states using different calculations. In the following sections, the two main indicators, Return on Fixed Tangible Assets (RoFTA) and Current Revenue against Breakeven Revenue (CR/BER) along with their disparate definitions will be described and their results detailed. The main difference among these is the calculation of opportunity costs which involves applying a long-term interest rate to the estimated capital value of the fleet and her segments.

In relation to the calculation of the Irish fleet segments' economic trajectory via these indicators it is essential to recognise that, in this report, the indicators are calculated for the sample of the active fleet that returned a DCF economic survey outlining the vessels annual costs in contrast to the AER method which calculates socio-economic performance indicators by fleet segments using the DCF economic survey data raised up to the active national totals.

For the year 2020, due to the changing of the data collection system in Ireland to an online system and also because of Covid, limited economic survey returns were collected for the Irish fleet. To estimate the performance of the fleet segments in 2020 the economic survey returns received for 2019 are used while the income data is updated using value of landings data extracted from the declared landings of the fleet and sales notes data for 2020. Additionally, as no data was collected for the pelagic fleet over 40m in 2019, the 2018 economic survey returns were used to simulate the cost structure in 2019 and 2020 with the income data updated for those years using declared landings and sales notes data. All years have been re-estimated using values from the declared landings and sales notes to ensure a consistent time-series of data.

Table 1: Percentage DCF economic survey returns from the active fleet

DCF Clusters	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
DFNVL0010			13	2	14	10	11	18	33	25	9	29	28
DFNVL1012	9	20	36	40	50	33	27	20	58	67	14	44	40
DFNVL1824	20		17	45	18	40	18	25	17	31	8	29	29
DRBVL0010		2	13	6	17	12	9	14	23	10	5	25	20
DRBVL1012	8	36	50	37	52	29	31	15	21	15	12	15	13
DRBVL2440	50	40	71	17	33	29	25	29	71	43	14	57	60
DTSVL0010						7		17	33	16	13	31	24
DTSVL1012	6		5	12	20	24	16	20	30	21	33	27	17
DTSVL1218	19	18	16	18	19	26	23	7	24	31	18	30	26
DTSVL1824	25	20	19	21	25	22	17	29	41	40	13	12	12
DTSVL2440	39	40	17	40	41	29	35	16	45	54	26	27	25
FPOVL0010	4	7	6	9	15	10	10	8	13	9	5	21	19
FPOVL1012	11	16	21	33	43	34	39	34	39	49	26	51	44
FPOVL1218	16	28	28	43	38	26	29	26	43	60	30	48	48
HOKVL0010				8	3	16	15	8	33	16	6	20	16
HOKVL1012	11			29	75	100	17	13		100	25	20	20
TBBVL2440	6	38	18	9		23	15		67	21	50	73	78
TMVL2440	29	42	50	64	18	50	33	33	67	58	27	33	29
TMVL40XX	35	45	25	42	52	48	33	19	40	40	35	0	25

***** While data collected through the EU register, Logbook and Sales notes (i.e., census data) was used for 2020, to augment the low return rates for the cost variables, the limited returns for 2020 data from the annual economic survey were combined with 2019 data returns and using the known 2020 landings data to weight the estimates.

The methodology used by the member state (IRL), for the AER, is to submit landings income from the landings declarations. Normally, in this report the stated revenue of those vessels that provided DCF economic survey data are compared against the stated costs from the DCF surveys. **However, due to the exceptional circumstances this year where only limited economic survey data was collected, the costs stated in the latest year (mainly 2019) are compared against declared landing value and sales notes data of 2020.**

Differences in economic indicator results may arise between both methodologies. These differences can be caused by biases in the data. For instance, those vessels that have returned DCF cost surveys may have landed below the average for their segment and so their revenue may be below the average segment level and may skew the results of the indicators, or vice versa.

The segmentation used here will follow the DCF segmentation as opposed to the Irish national segmentation used by the Department of Agriculture, Food and the Marine (DAFM); The results for the latter will be included in Annex 1 and Annex 2.

2.1 Economic indicator 1: ROI/RoFTA

Annual Economic Report Methodology for Economic Indicators – Chapter 6 AER REPORT METHODOLOGY

The AER defines ROI/RoFTA as follows :

Net Profit/Loss:

Net Profit = Income from landings + other income – crew costs – unpaid labour - energy costs – repair costs – other variable costs – non variable costs – depreciation cost – opportunity cost of capital

*Where opportunity cost of capital = fixed tangible asset value * real interest*

Where real interest (r) = [(1 + i)/ (1 + π)] -1.

Where i is the nominal interest rate of the Member State in the year concerned and π is the inflation rate of the Member State in the year concerned. See Table 6.3.

Rate of Return on Fixed Tangible Assets (RoFTA):

ROFTA = (net profit + opportunity cost of capital) / tangible asset value (vessel depreciated replacement value)

In the calculations above opportunity cost is included as a cost in the calculation for net profit. However, in the RoFTA calculation it is included again as what would seem to be an income (i.e. the net profit side of the equation should exclude the opportunity cost). It has been clarified that the net profit on its own should include opportunity costs while the RoFTA should not include opportunity costs as part of the net profit [by adding back

the opportunity cost after it was already taken off in the previous equation]. The RoFTA is then compared against the opportunity cost of capital.

STECF WG on balance :

RoFTA* is calculated as:

Net profit* / (fleet depreciated replacement value);

where, Net profit* = (Income from landings + other income) - (crew wage + unpaid labour + energy + repair + other variable costs + non variable costs + annual depreciation)

ROI is compared against a Target Reference point (TRP). For this exercise, **the 5-year average of the risk-free long-term interest rate for each MS was used**.

Maritime Affairs Guidelines for analysis of the balance between fishing capacity and fishing opportunities

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

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.

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 represents 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.*

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.*

Conclusion: all three definitions differ in terms of interest rates. Both the STECF balance report and the Guidelines to MS refer to the '*low risk long term interest rate'. However, the* **STECF balance report recognises that the '***low risk long term interest rate'*

which would formerly have been the ECB rate IRL has fluctuated wildly during the years of the economic crisis and so has suggested using a 5-year average of the interest rate. **The AER uses real interest rate. The difference for Ireland can be seen in the following graph:**

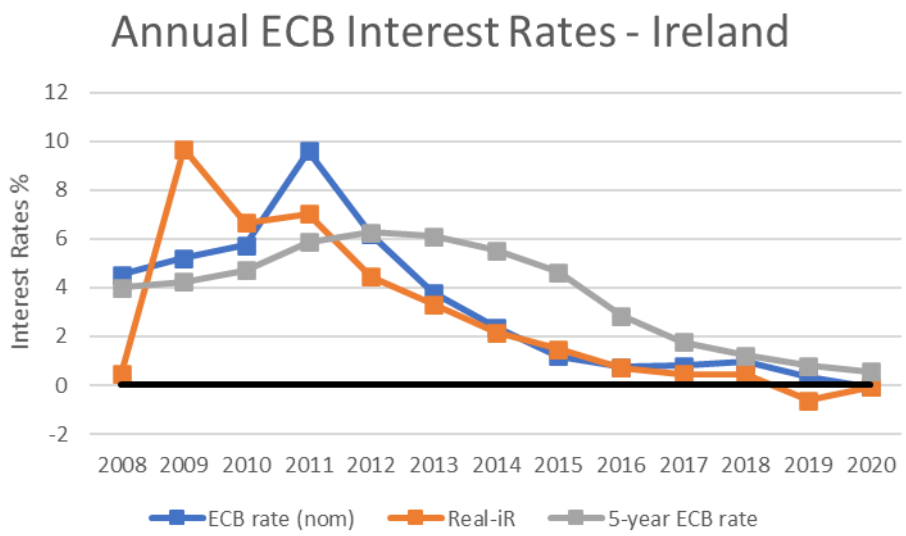


Figure 1: Nominal, real and 5-year average nominal interest rates for Ireland

The **ECB rate IRL** is the nominal interest rate to Ireland from the ECB in each year, the **Real-iR** is the real rate of interest that adjusts the ECB nominal rate for annual inflation, and the **5-year ECB rate IRL** is the average interest rate for each year of the 5 former years (e.g. The 2008 value is the average interest rate to Ireland from 2004-2008 and so on).

In this report the indicator will be calculated following the suggestion of the STECF WG on balance and use the 5-year average ECB rate to Ireland (5-year ECB rate IRL).

Table 2: RoFTA using the declared landing income in combination with costs stated in the DCF surveys and the 5-year average interest rate from the ECB to Ireland:

DCF Segment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DFNVL0010			-0.21	-3.48			1.56	0.43	0.53			0.46	0.24
DFNVL1012	0.00		0.10	0.12	0.03	0.05	0.20	1.25	-0.24	0.22		-0.03	-0.29
DFNVL1218									-0.43		-0.26		
DFNVL1824	-0.39		0.25	-0.20	5.13	0.06	8.15	-0.64	-0.34	-0.27	-0.55	0.01	-0.24
DRBVL0010			-0.08	0.55			-5.60	-0.03	-0.12			0.41	-0.21
DRBVL1012	-15.76	-1.78	0.02	1.37	-4.39		-9.39	0.87	-0.30	0.24	0.13	0.50	0.59
DRBVL2440	-0.30	-0.23	-0.34	1.06	-0.27	0.09	9.04	1.01	0.02	0.06	0.92	0.04	0.57
DTSVL0010								-0.36	-0.16			-0.13	0.00
DTSVL1012	-0.45			0.57	1.48	1.12	0.08	-0.05	0.13	0.21	-0.41	3.24	-0.17
DTSVL1218	-0.30	-0.24	0.00	0.01	0.22	0.12	0.19	0.00	0.29	0.17	-0.20	0.01	-0.13
DTSVL1824	-0.28	-0.23	-0.10	-0.21	0.12	-0.08	-0.03	-0.16	0.50	0.08	-0.03	0.00	-0.25
DTSVL2440	0.03	0.00	0.17	-0.19	0.00	-0.01	-0.02	0.01	0.14	0.09	0.10	0.10	0.08
FPOVL0010			-0.19	-0.43	-3715	0.11	0.61	0.48	-0.47			0.49	-0.07
FPOVL1012	1.25		0.36	0.34	-0.92	1.22	1.20	0.40	0.97	0.07	1.25	0.64	-0.29
FPOVL1218	-0.63	-0.32	0.23	-0.18	-0.42	0.00	0.94	1.20	-0.44	0.11	-2.08	1.45	-0.32
HOKVL0010				-15.84			-0.96	-1.32	-0.46			0.35	0.16
HOKVL1012	-2.54			0.08	-0.34	2.23		-2.37			0.13		
TBBVL2440	-0.27	-0.79	0.15	-0.07		-0.60				0.45		0.24	-0.60
TMVL2440	-0.24	-0.06	-0.11	-0.11	-0.40	-0.19	0.09	-0.29	-0.04	0.13	0.09	0.11	0.07
TMVL40XX	-0.10	-0.06	-0.13	-0.11	0.03	-0.04	0.10	-0.01	-0.04	0.05	0.04	0.03	0.09
Grand Total	-0.15	-0.09	-0.09	-0.11	-0.02	-0.04	0.11	-0.04	0.03	0.08	0.05	0.09	0.05

Results of RoFTA:

The results for 2020 show a decline in economic performance for the Irish fleet compared to 2019. In that year only two segments failed the long-term economic indicator however in 2020 the number of segments failing this indicator increased to 10. Three of the five demersal trawl and seine fleet segments failed the RoFTA indicator, including the 10-12m, 12-18m and 18-24m length classes. The 24-40m length class did pass the indicator showing a consistent performance over the previous five years.

Of the main pelagic fleet segments (TM) the 24-40m continues to show a steady return on fixed tangible assets in 2020. No economic survey returns were provided by the pelagic fleet above 40m in 2019. However, our estimates for 2019 and 2020 suggest positive economic indicator results for these years.

2.2 Economic indicator 2: CR/BER

Annual Economic Report Methodology for Economic Indicators – Chapter 6 AER REPORT METHODOLOGY

Break-Even Revenue (BER):

BER = (Fixed costs + opportunity costs of capital +depreciation) / (1-(crew costs + unpaid labour + energy costs + repair and maintenance costs + other variable costs)/Revenue)

Revenue to Break-Even Revenue Ratio (CR/BER):

CR/BER = revenue / break-even revenue = Income from landings + other income / BER

CR/BER gives an indication of the short-term profitability of the fleet/fleet segment (or over/under capitalised): if the ratio is greater than 1, then enough cash flow is generated to cover fixed costs (economically viable in the short term). If the ratio is less than 1, insufficient cash flow is generated to cover fixed costs (indicating that the segment is economically unviable in the short to mid-term).

STECF WG on balance :

Current revenue to break-even revenue ratio (CR/BER) is calculated as:

Current revenue (CR) / Break Even Revenue (BER),
where,
CR = income from landings + other income
where,
BER = fixed costs / (1-[variable costs / current revenue])
and,
Fixed costs = non variable costs + annual depreciation
and,
Variable costs = crew wage + unpaid labour + energy costs + repair costs + other variable costs

Maritime Affairs Guidelines for analysis of the balance between fishing capacity and fishing opportunities

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-term 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.

*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.*

Conclusion: the CR/BER defined in the STECF report is what the Guidelines refer to as the short-term CR/BER while the CR/BER defined in the AER is what the Guidelines refer to as the long-term CR/BER. Hence, the long-term indicator includes opportunity costs. The difference between the AER and the Guidelines in this regard is the 'low risk long term interest rate'.

In this report we will use the **long-term indicator** that includes opportunity costs of capital.

Table 3: Current Revenue to Breakeven Revenue long term (CR/BER) using the declared landing income in combination with costs stated in the DCF surveys:

DCF Segment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DFNVL0010			-1.26		-4.13	0.54	1.82	3.58	2.48	7.56	8.76	5.34	3.05
DFNVL1012	1.02	7.89	2.31	1.48	1.23	1.21	2.00	4.97	-0.47	2.05	93.25	0.88	-0.09
DFNVL1218									0.51		-2.49		
DFNVL1824	0.09		3.60	0.18	18.84	1.56	7.49	-1.77	-1.13	-0.68	-2.10	1.04	-0.41
DRBVL0010		-2.95	-0.06	3.98	-3.51	1.12	-6.72	0.87	0.68	-1.96	-2.65	6.07	-0.84
DRBVL1012	-0.58	-1.20	1.12	4.09	-5.92	0.02	-7.84	7.34	-0.38	2.73	1.91	4.76	5.37
DRBVL2440	-0.50	-1.70	-0.04	7.75		1.29	39.29	8.08	1.03	1.13	9.22	1.24	4.44
DTSVL0010						-0.99		-0.09	0.58	-4.05	0.79	0.43	1.00
DTSVL1012	-1.75			4.89	7.88	3.39	1.37	0.90	1.36	2.34	-0.72	6.31	0.58
DTSVL1218	-0.34	-0.09	0.99	1.04	1.81	1.73	1.87	1.01	2.22	2.13	0.18	1.15	-0.89
DTSVL1824	-0.07	0.07	0.61	0.09	1.48	0.71	0.92	0.30	3.05	1.43	0.87	1.04	-0.91
DTSVL2440	1.13	1.00	1.83	0.01	1.02	0.92	0.89	1.10	1.77	1.63	1.86	1.80	1.56
FPOVL0010	-2.02	-4.28	-1.00	-0.92	-4.27	1.06	1.57	2.43	-1.03	6.20	1.59	5.90	0.29
FPOVL1012	2.75	6.20	5.40	2.72	-2.86	5.81	5.45	2.30	3.74	1.32	6.38	4.12	-0.20
FPOVL1218	-1.72	-1.04	2.92	0.11	-0.93	1.01	4.11	3.86	-0.23	1.45	-1.99	7.80	0.11
HOKVL0010						2.54	-5.73	-1.53	-0.48	4.68	6.33	4.47	2.16
HOKVL1012	-4.10			2.44	-0.28	4.15	8.10			0.39	3.29	-2.59	1.25
TBBVL2440	-0.07	-2.21	1.80	0.77		0.04	1.31		1.79	4.93	-3.54	4.00	-6.33
TMVL2440	-0.23	0.66	0.55	0.50	-1.01	-0.22	1.55	0.21	0.71	2.04	2.05	2.00	1.68
TMVL40XX	0.45	0.56	-0.06	0.20	1.18	0.75	1.74	0.89	0.69	1.52	1.44	1.33	1.98
Grand Total	0.29	0.45	0.44	0.35	0.91	0.79	1.71	0.76	1.16	1.60	1.41	1.88	1.52

Results of CR/BER:

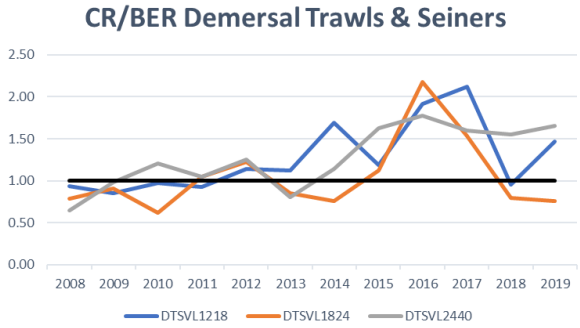
The results of this indicator are more positive than the RoFTA indicator with 7 segments failing. Two length classes of the demersal trawl and seine fleet failed this indicator, the 12-18m and 18-24m classes. The 24-40m DTS fleet passed this indicator while both pelagic fleets passed the indicator comfortably.

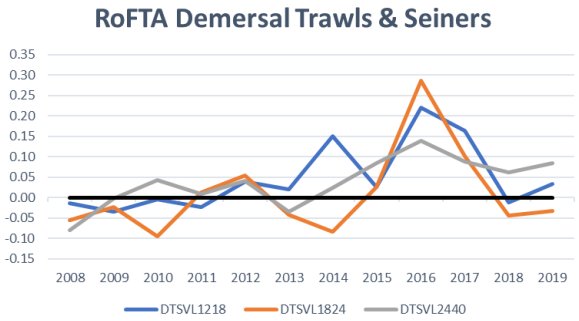
Economic Indicator Summary

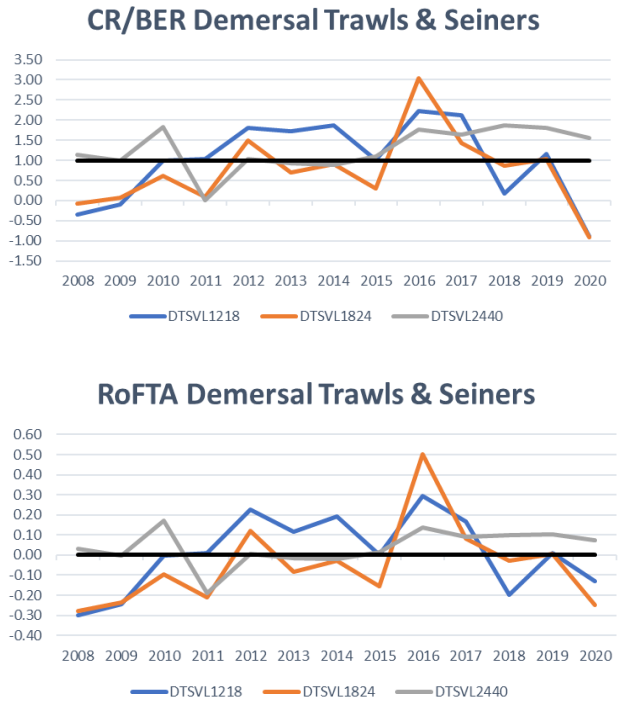
STECF balance and Guideline for fleet reports use similar methodology in terms of long-term interest rate while the AER uses real interest rates to incorporate the opportunity costs of capital. In this report for the long-term indicator (RoFTA) we used the STECF recommendation of 5-year average ECB rates to Ireland. For the breakeven revenue indicators, we follow the Guidelines and incorporate opportunity costs in the CR/BER indicator.

The most important revenue generating segments in the Irish fleet to be analysed here are polyvalent general, pelagic and specific DCF segments:

- Polyvalent general: DTS segments: DTS1218 - DTS1824 - DTS2440
- Pelagic: TM segments: TM2440 - TM40XX
- Specific: DRB segments - DRB2440





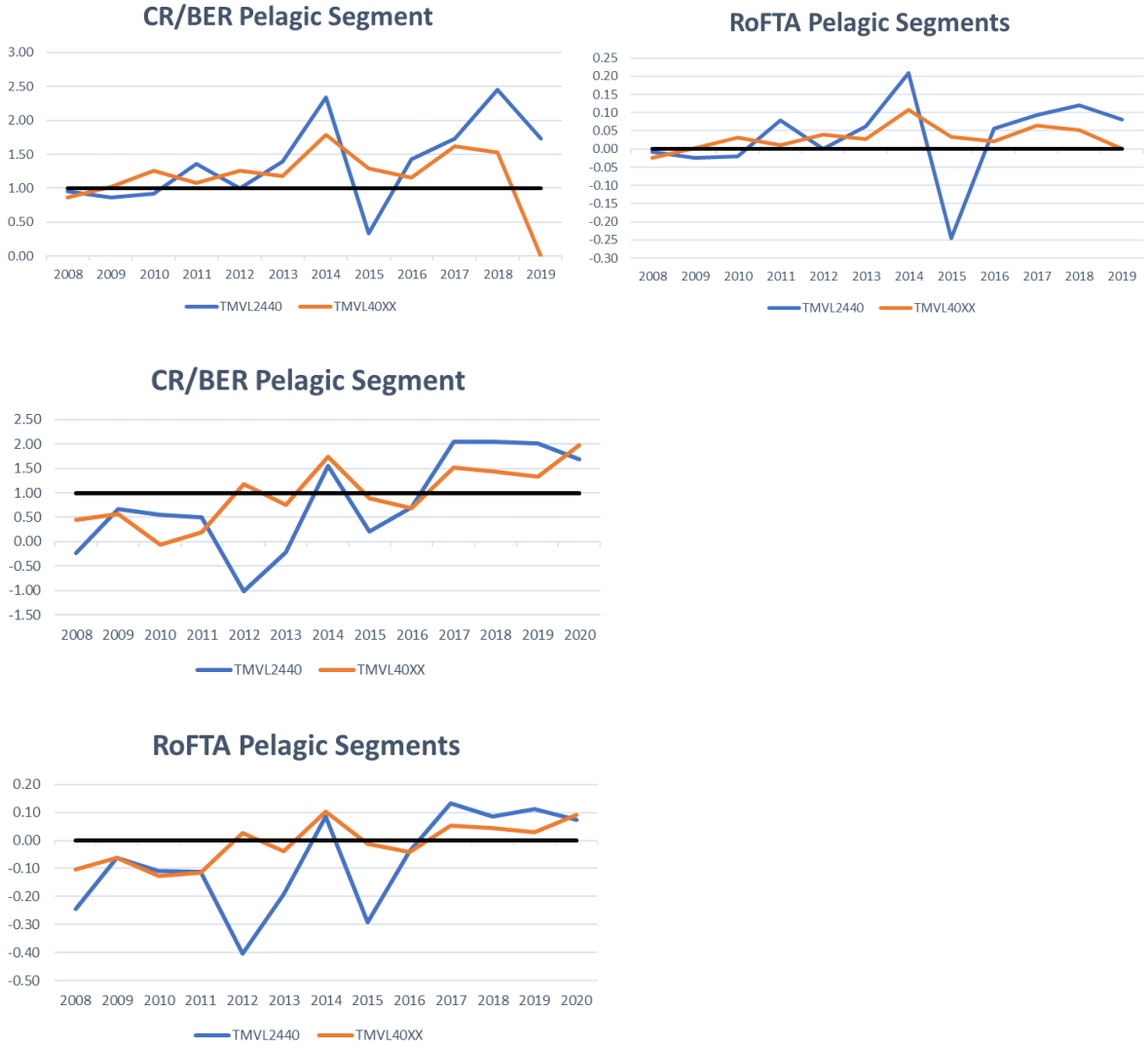


Figures 2a & 2b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for DTS length classes respectively (polyvalent general)

Results show that there have been improvements in both (CR/BER) and (RoFTA) economic indicators for the DTS fleet since 2008. The trends in both indicators are overall positive however there have been sharp fluctuations throughout. The results show that in 2020 two of the three length classes over 12m fail both indicators whereas no indicator was failed in 2019 for these segments. The indicators for length class of 18-24m have fallen since 2016, failing both indicators in 2018 and now in 2020. A similar pattern is evident for the 12-18m length class. The 24-40m segment continues to operate at a strong economic level.

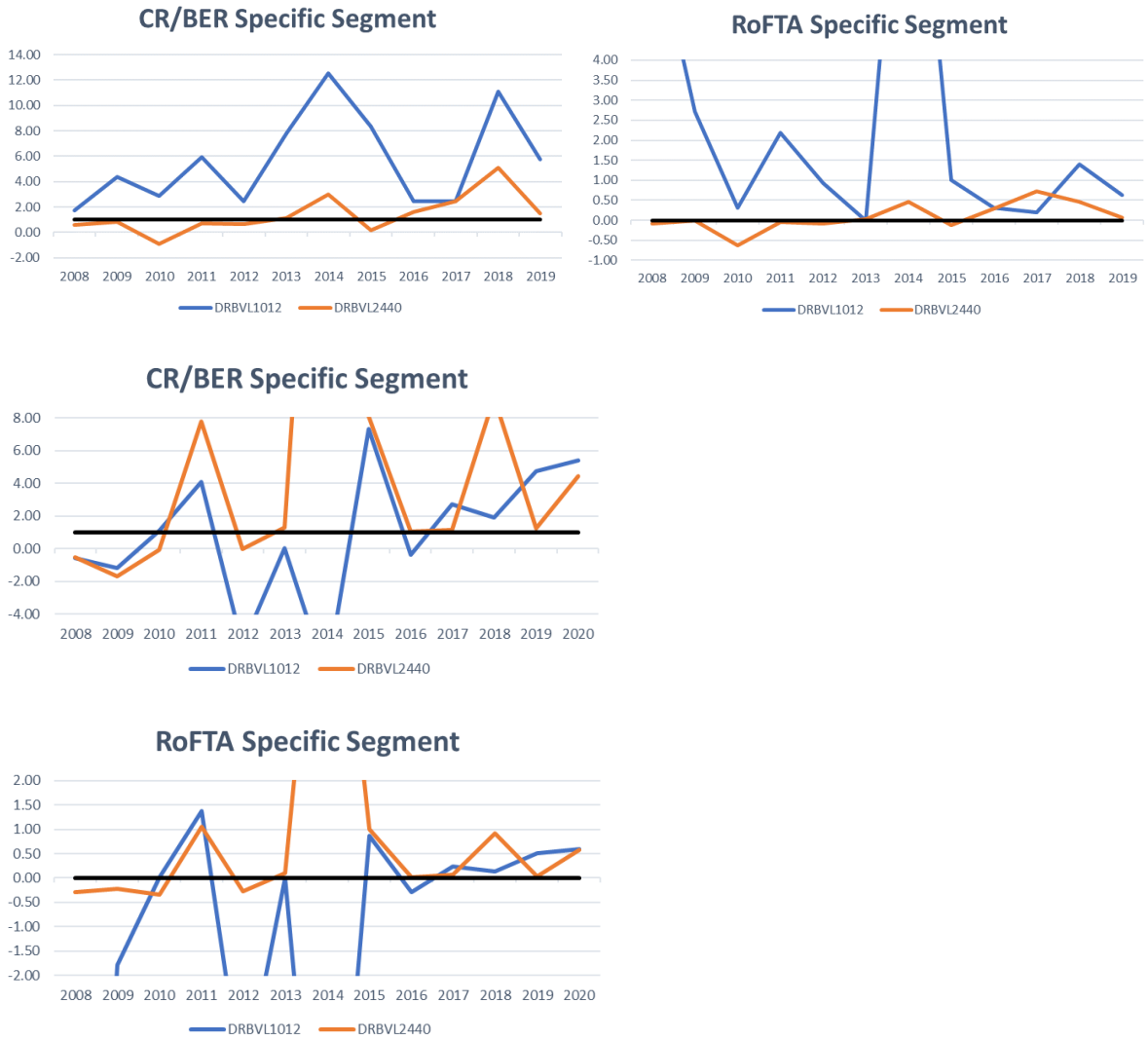
Given the severity of the Covid-19 pandemic it is understandable that the economic performance of some fleet segments would be impacted negatively, despite the industry continuing to operate. when other factors are considered, such as the impact of Brexit on the Irish seafood industry from 2021 onwards and the current fuel crisis following the invasion of Ukraine by Russia in 2022, it is entirely foreseeable that many other segments of the fleet will be negatively affected economically. The Irish fleet will be impacted by lower landing values (reduced quotas from Trade and Cooperation Agreement (TCA)

with the UK) and higher costs (fuel prices, general inflation) in the future so the capacity to maintain profitability will be considerably constrained.



Figures 3a & 3b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for TM length classes respectively (pelagic trawlers)

According to the estimates made here to simulate the economic performance of the pelagic fleets up to 2020 the results show that both length classes performed well in 2020 despite the effects of the pandemic and the uncertainty caused by Brexit. Both fleet segments seem to pass both indicators comfortably after 2016. The impacts of the TCA on Irish quotas (where a significant reduction is seen in Irelands quota of mackerel) and the significant increase in fuel costs and general inflation will be seen next year.



Figures 4a & 4b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for DRB length classes respectively (specific segment)

The specific segment has shown mixed results for both indicators throughout the time series with some sharp fluctuation between years. The segment has continued its positive economic results in 2020 with both segments, the 10-12m and 24-40m length classes, passing both economic indicators for the fourth consecutive year.

The results of both economic indicators are shown by Irish DAFM segmentation in Annex 1 and Annex 2.

Conclusion

This analysis shows worse results for the Irish fleet in 2020 with 10 segments failing the RoFTA and 7 failing the CR/BER indicators respectively. Nevertheless, the Irish fleet

passes both indicators overall. The main worry here is the DTS 18-24m length class which has not passed both indicators since 2017. The length class of 12-18m DTS is in a similar situation to the 18-24m. While the performance of the 24-40m segment has remained solid even through 2020, the main impacts to this segment are not yet being picked up in data collection. Reduced quotas for *Nephrops* and other whitefish species will seriously impact the turnover of this fleet segment while general inflation and increasing oil prices are eroding profitability. Similarly, the pelagic fleet segments have passed both indicators well in the latest years but the impacts facing these are considerable given the quota transfers of mackerel and other species as part of the TCA between the EU and the UK.

Finally, when assessed through Department of Agriculture, Food and Marine (DAFM) segments, the polyvalent general 18-24m segment fails the RoFTA and the CR/BER along with three of the other length classes in this segment. Only the length class of 24-40m passes both indicators in 2020. The pelagic trawl segments both pass the economic indicators in 2020. However, due to the lack of cost data collected in 2020 and the need to simulate data in 2020 and the pelagic segments in 2019, significant uncertainty surrounds these estimates. Overall, the indicators for 2020 are uncertain from the economic point of view. Given the ongoing crises affecting the Irish fleet in 2021 and 2022 it is highly likely that actions will be required to be carried out for a number of fleet segments, including the need for a decommissioning scheme.

4. Technical Indicators

– see attached spreadsheet

Annex 1 – RoFTA Irish Segmentation

DAFM Segment	Length	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Beamer	VL1824	-0.27	-5.47	-0.02	-0.07		-1.78			0.39			0.58	-0.13
Beamer	VL2440		0.06	0.22			-0.34				-0.48		0.02	-0.87
Pelagic	VL2440	-0.09	-0.07	-0.08	-0.19	-0.37	-0.29	-0.19	-0.45	-0.12	0.04	0.07	0.10	0.10
Pelagic	VL40XX	0.00	-0.06	-0.13	-0.11	0.03	-0.04	0.10	-0.01	-0.04	0.05	0.04	0.03	0.09
Polyvalent General	VL0010			-0.19	-0.36	-4069	-0.13	-0.13	0.02	0.23	-2.39		0.43	0.06
Polyvalent General	VL1012	0.12		0.28	0.37	-0.28	1.08	0.97	0.71	0.42	0.20	1.10	0.74	-0.10
Polyvalent General	VL1218	0.07	0.08	0.13	0.07	0.43	0.26	0.34	0.45	-0.01	0.32	-0.35	0.35	-0.18
Polyvalent General	VL1824	0.29	-0.28	-0.07	-0.21	0.09	-0.08	-0.06	-0.19	0.47	0.03	-0.03	0.02	-0.25
Polyvalent General	VL2440	0.16	-0.05	0.16	-0.15	-0.05	-0.04	0.08	0.08	0.14	0.14	0.10	0.15	0.04
Polyvalent Potting	VL0010			-0.26	-0.48				0.05	-0.89			0.65	-0.05
Polyvalent Potting	VL1012			0.39	0.40	-9.52		0.31	-0.36	1.46			1.11	-1.83
Polyvalent Tank	VL2440	0.35	-0.20	-0.18	-0.02									
Specific	VL0010			0.16	0.21				0.80	0.53			0.29	-0.19
Specific	VL1012	-15.76		0.14	0.84	-5.72		-11.39	0.65	-0.30	-0.11	-0.29	0.60	0.88
Specific	VL1218		-1.50	-2.83		-2.38								-0.80
Specific	VL1824	-0.67	-0.40	-0.31					0.00	0.23	0.33		0.42	1.10
Specific	VL2440	0.07			1.06		0.09	11.66	12.37	0.36	0.63	0.92	0.02	0.54
Grand Total		-0.15	-0.09	-0.09	-0.11	-0.02	-0.04	0.11	-0.04	0.03	0.08	0.05	0.09	0.05

Annex 2 – CR/BER Irish segmentation

DAFM Segment	Length	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Beamer	VL1824	-0.07	-10.33	0.94	0.77		-1.75	1.31		1.47	-13.36	-29.05	8.40	-0.64
Beamer	VL2440		1.36	2.74			0.45			1.25	0.61	-2.53	1.16	-6.70
Pelagic	VL2440	0.22	0.52	0.59	0.07	-0.39	-1.02	-0.56	-0.07	0.07	1.44	1.85	1.86	1.88
Pelagic	VL40XX	0.98	0.56	-0.06	0.20	1.23	0.75	1.74	0.89	0.69	1.52	1.44	1.33	1.98
Polyvalent General	VL0010	-0.84	-4.79	-1.09	-0.48	-4.22	0.94	0.87	1.09	1.63	-0.60	3.61	4.87	1.50
Polyvalent General	VL1012	1.51	6.03	4.46	2.82	-0.42	4.36	4.76	3.30	2.70	1.92	5.78	4.01	0.63
Polyvalent General	VL1218	1.35	1.42	1.72	1.26	2.51	2.56	2.46	2.93	0.97	2.92	-0.77	4.13	-0.60
Polyvalent General	VL1824	2.07	-0.29	0.70	0.13	1.32	0.72	0.83	0.13	2.97	1.15	0.82	1.17	-0.94
Polyvalent General	VL2440	1.83	0.72	2.00	0.21	0.69	0.76	1.45	1.53	1.80	1.91	1.76	2.24	1.31
Polyvalent Potting	VL0010					-4.76	8.05	9.19	1.08	-3.37	3.31	-0.64	9.26	0.37
Polyvalent Potting	VL1012		7.44	5.19	3.24	-6.11	43.86	2.30	0.40	1.63	7.45	11.40	6.95	-5.98
Polyvalent Tank	VL2440	2.66	0.60	0.50	0.96									
Specific	VL0010		-2.95	2.58	2.77	-2.44	-3.63	-6.94	4.52	2.60		-0.50	4.70	-1.13

Specific	**VL1012**	-0.58	-2.97	1.79	3.01	-5.72	-2.45	-12.56	5.95	-0.78	0.18	-1.41	6.45	8.65
Specific	**VL1218**		-2.54			-7.53								-2.77
Specific	**VL1824**			0.45					1.01	2.34	2.57		5.04	11.80
Specific	**VL2440**	1.36			7.75		1.29	52.64	59.99	2.66	4.51	9.22	1.10	4.19
Grand Total		0.88	0.29	0.45	0.44	0.35	0.91	0.79	1.71	0.76	1.16	1.60	1.41	1.88