ANNUAL REPORT ON

THE IRISH FISHING FLEET FOR 2020

Department of Agriculture, Food and the Marine

Ireland

ANNUAL REPORT TO THE EUROPEAN COMMISSION ON THE IRISH FISHING FLEET FOR 2020 (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. <u>Summary</u>

This report gives a description of the Irish fishing fleet in relation to fisheries developments during 2020, 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. <u>MS opinion on balance of fleet capacity & fishing opportunities</u>

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 positive results for the Irish fleet with nearly all segments passing both indicators in 2019 and in the most recent years assessed. The main worry here is the DTS 18-24m length class which failed both indicators in 2019 again after failing both in 2018. This length class had passed both indicators in years 2015-2018, but this year is the second year in a row where the indicators have been negative. Despite this the extent of failing the indicators is not extreme and the segment has recovered from similar situations in the timeline assessed. Given the strong performance of the 24-40m segment, the market conditions should permit the segment to recover and hopefully thrive. Finally, when assessed through Department of Agriculture, Food and Marine (DAFM) segments the polyvalent general 18-24m segment also fails the RoFTA and the CR/BER. The pelagic trawl segment above 40m did not provide economic surveys for 2019 so cannot be assessed. The pelagic segment 24-40m shows positive results for the last four years so it is likely the larger vessel length category also passed the indicators. Overall, the indicators for 2019 are positive from the economic point of view. Given the extraordinary events of 2020 it is highly likely that actions will be required to be carried out for a number of fleet segments.

With regard to biological indicators, of the 14 fleet segments for which the 2017 Sustainable Harvest Indicator (SHI) was considered meaningful to assess balance or imbalance, 2 fleet segments are in balance with their fishing opportunities. However preliminary figures for 2018 show that 8 of these segments are now in balance. The Stock at Risk (SAR) indicator was available for all the 32 active fleet segments in 2017, 23 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 1998 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 2020 is provided below:

(a) **Refrigerated Seawater (RSW) Pelagic Segment:** This segment comprised 23 vessels with a total capacity of 24,876 GT and 47,109 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 1,722 vessels, the vast majority of vessels in the fleet, with a total capacity of 32,918 GT and 117,177 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 147 vessels, with a total capacity of 2,237 GT and 12,032kW, 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 96 vessels, with a total capacity of 4,278 GT and 11,655 kW, is not subject to the entry / exit regime.

Capacity of Irish Fleet on 31 December 2020 (Extracted from Vessel Register Report on 31 December 2020).			
Fleet Segment	**Number of Vessels**	**Gross Tonnage (GT)**	**kilowatts (kW)**
Aquaculture	*96*	*4,278*	*11,655*
Specific	*147*	*2,237*	*12,032*
Polyvalent	*1,722*	*32,382*	*115,555*
Beam Trawl	*10*	*1,139*	*2,818*
RSW Pelagic	*23*	*24,876*	*47,109*
Total	*1,998*	*64,912*	*189,169*

Table 1: Structure of the Irish Fleet 2020

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 1,998 vessels in the Irish fleet, 1,486 are less than 10 metres length overall, 234 vessels are between 10 and 12 metres length overall, 66 vessels are between 12 and 15 metres length overall, 99 vessels are between 15 metres and 24 metres length overall

and 113 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[1]. Despite some consolidation in recent years with the reduction in vessel numbers, this ownership profile continues to dominate in the Irish fleet.

(ii) Link with fisheries

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.

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[1] OECD Country Note 2002

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.)
(c)Beam Trawl	Demersal (e.g. Whiting, Haddock, Hake, Cod, Halibut, Sole, Plaice, Monkfish, Megrim, Skate)	*Nephrops*, Scallop
(d)Specific (sub-divided into Scallop Sub-segment and General Sub-segment)	N/A	Farmed species and wild Bi-Valve Molluscs (e.g. Mussels, Scallop, Razor Clam, Clam, Oyster etc.)
(e) Aquaculture	Farmed species only	Farmed species only

Table 2: Irish Fleet Profile

(iii) **Development in fleets**

Compared with 2019, the RSW (Pelagic) Segment did not change in terms of number of vessels or during 2020.

The Beam Trawler Segment did not change in terms of the number of vessels or capacity.

The Polyvalent Segment decreased by 1 vessel and by 536 GT and 1,622 kW in 2020. The Registrar General of Fishing Boats carries out ongoing reviews of the Register to identify and follow up on registered vessels whose sea-fishing boat licences have lapsed. Under this review in 2020, 2 vessels were compulsorily de-registered and 6 were voluntarily de-registered.

The Specific Segment decreased by 4 vessels and by 30 GT and 208 kW in 2020.

The Aquaculture Segment decreased by 1 vessel.

Figure 1 illustrates the number of vessels in the Irish Fleet since 2005, which has grown to approximately 2,000 vessels. 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.
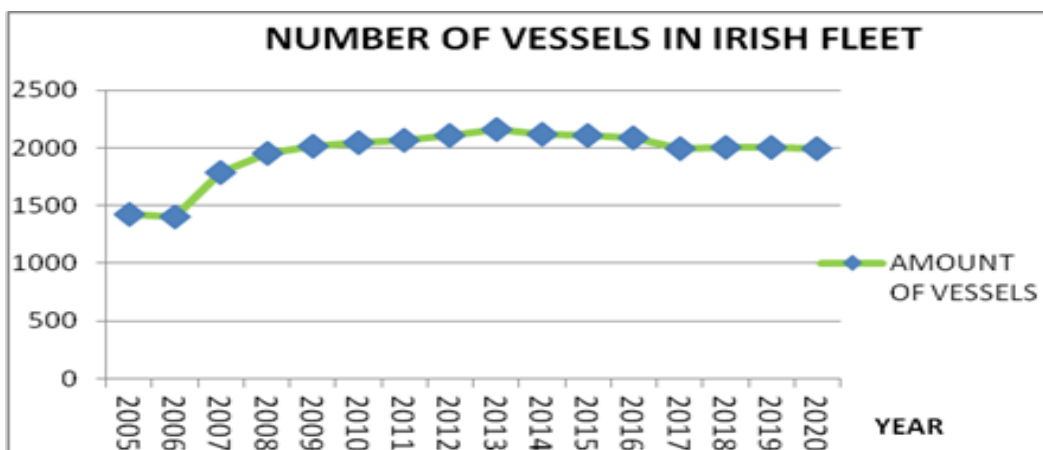
Figure 1:Number of vessels in the Irish Fleet since 2005.

The graphs in Figures 2 and 3 illustrate that the capacity of the Irish fleet, measured in Gross Tonnes and kW, has in fact decreased since 2003. This can be attributed largely to (a) the amount of RSW Pelagic capacity currently off-register[2], (b) the decommissioning of larger vessels[3], and (c) in a minor way to new safety regulations. The fleet capacity ceiling set at 1 January 2014 for the Irish fleet under Regulation (EU) No 1380/2013 is 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.

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[2] Current RSW Pelagic capacity off-register of: 11,273 GT/662 kW
[3] Department of Agriculture, Food and the Marine (2011) Value for Money Review Fisheries Decommissioning Scheme 2005-2008

Figure 2: Capacity of the Irish Fleet in Gross Tonnes Jan 2003 – Jan 2021

Jan 2003-Jun 2018

Jan 2014-Jan 2021

Figure 3: Capacity of the Irish Fleet in kW Jan 2003-Jan 2021

Jan 2003-Jun 2018

30200   ▲─ Capacity ceiling kW   ■─ Capacity in kW   ▲and ■ Values at 1st day of the month

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 VIa and VIIa) are of a highly mixed nature.

In 2009 a new kW days scheme was introduced as part of the Cod Recovery Programme and to comply with the effort ceilings all vessels operating in the areas were required to have specific Authorisations. These Authorisations placed restrictions o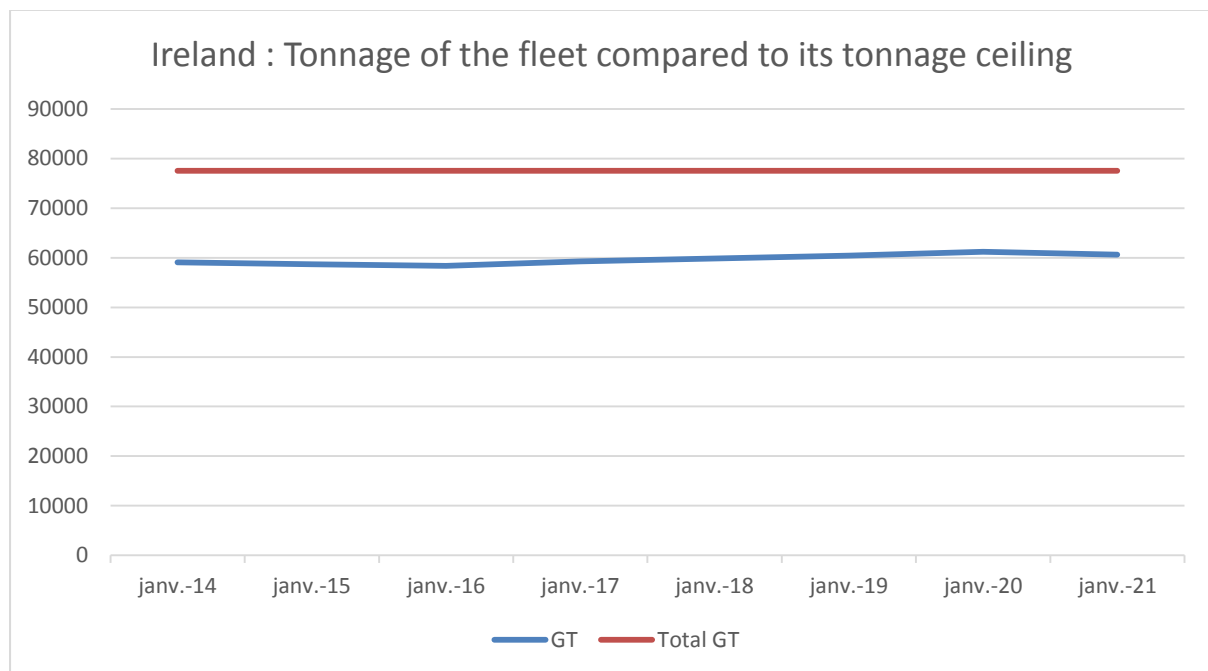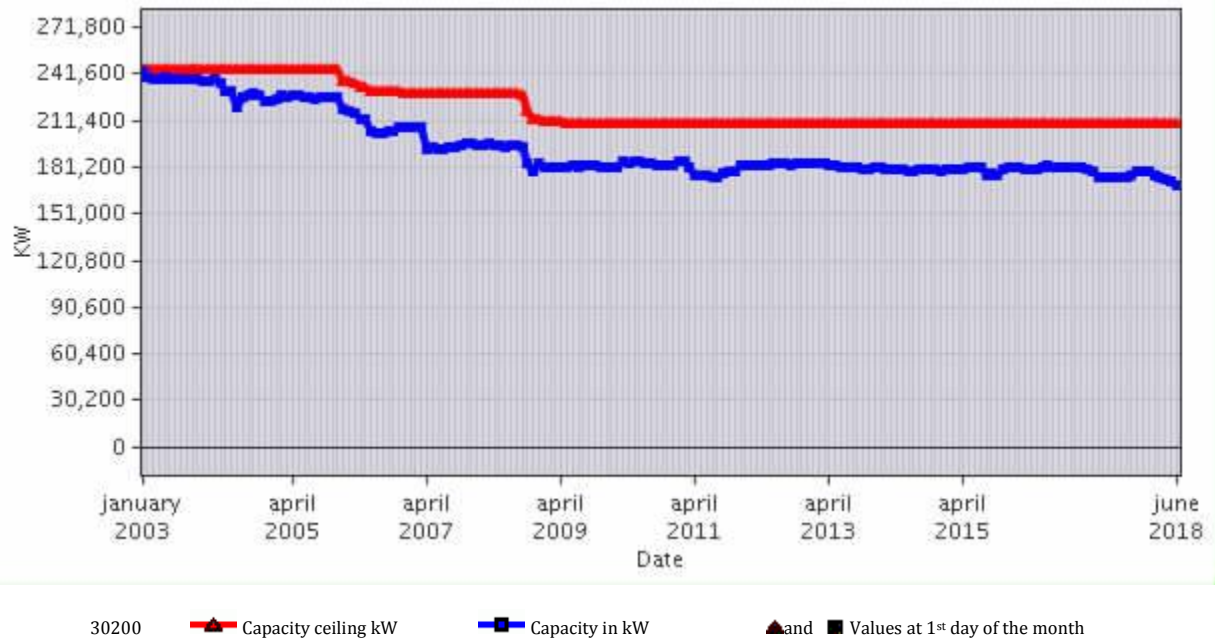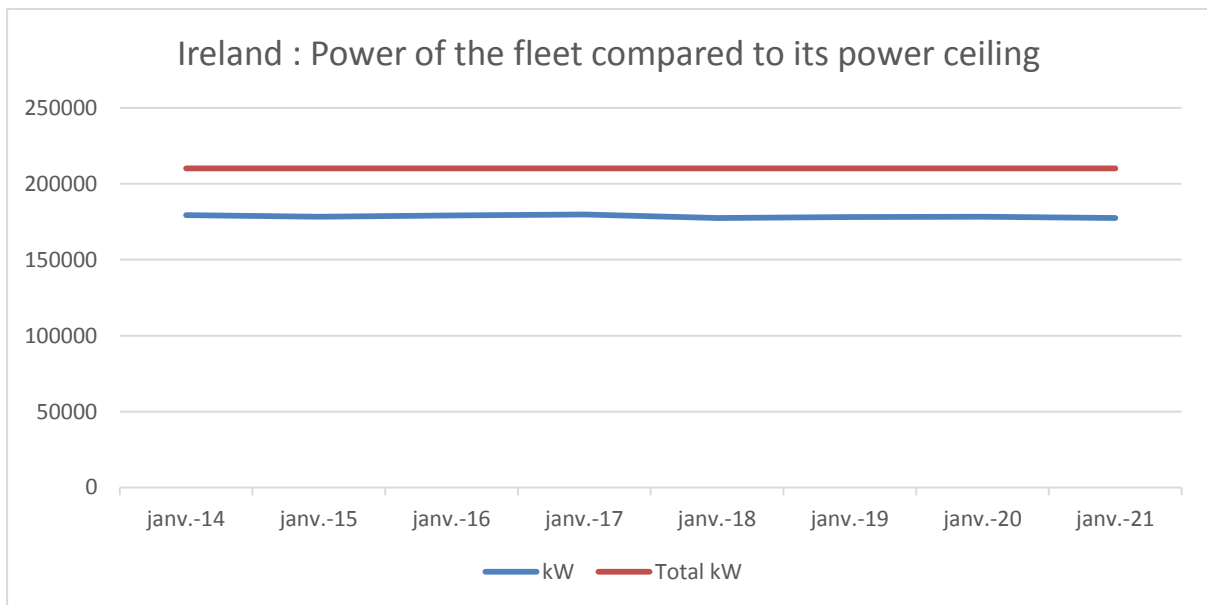n the area where the vessels operate, the gear type that could be used and set an upper limit on the maximum kW effort allowed.

Area VIa

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 VIa 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 VIIa

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 the cod population. During this time 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. Demersel trawls are only permitted in the area if they are fitted with STECF assessed selective gears.

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.

(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 VIa and VIIa 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 2020 was 15,545 GT and 52,736 kW (no decommissioned capacity included). The total capacity which exited the fleet between 2014 and 2020 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 2020 (Extracted from Fleet Register 31 December 2020)

The overall fishing capacity situation of the Irish fleet at 31 December 2019 was 60,634 GT and 177,514 kW (see Table 3, below).

Table 3: Overall fishing capacity situation of the Irish fleet 2020

	GT	kW
Capacity of the Fleet on 31/12/2013	59,516	181,641
2014 to 2020 Entries of Vessels Without Public Aid	15,545	52,736
2014 to 2020 Exits of Vessels Without Public Aid	14,427	56,863
Capacity of the Fleet on 31/12/2020	60,634	177,514
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.   Fishery management tools include a partnership quota management system with Producer Organisations and other key industry players with monthly meetings and allocation arrangements that are responsive to criteria such as marketing initiatives and market prices.

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; the well-functioning of the monthly vessel catch limits agreed upon by Irish fishing stakeholders 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

The Fisheries Operational Programme is focusing on improving the economic performance of the fleet under a range of measures and in particular to improvements in on board handling which will increase the quayside value of landings. It also focuses on adding value both at sea and on landing. Within the Programme there is a strong commitment to an enhanced training programme for crew of fishing vessels.

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

Ireland's Registrar General of Sea Fishing Boats (Ireland's licensing authority for the fleet) exercised strict control over the entry/exit regime and the fleet remained within its reference level.

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 2020.

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 12th April 2021 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-20-11). 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 2008-2018 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 2018): 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 2014-2018, 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 2 aims to measure how many stocks are being affected by the activities of a fleet segment that are biologically vulnerable.

SAR calculated for the years 2009-2018 for all fleet segments for which data were available.

Comment on balance (status in 2018): 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 the time series 2008-2018.

Out of 30 fleet segments active in 2018, SHI indicator values were available for 24. According to the criteria in the 2014 Commission guidelines, the SHI indicator values for 13 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 11 fleet segments for which the SHI indicator may be considered meaningful to assess balance or imbalance, accounted for 75.10% of the total value of the landings in 2018 provided by MS, and were as follows:

- **5 fleet segments** may be **in balance** with their fishing opportunities;
    - ➢ demersal trawlers and/or demersal seiners (DTS) in the 12-18m and 18-24m categories;
    - ➢ the beam trawlers (TBB) in the 18-24m length category and
    - ➢ the pelagic trawlers (TM) in the 10-12m, and 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 24-40m length category;
    - ➢ vessels using hooks (HOK) in the 10-12m length category;
    - ➢ the beam trawlers (TBB) in the 24-40m length category and
    - ➢ the pelagic trawlers (TM) in the 18-24m, 24-40m and the >40m length categories.

Trends could be calculated for 10 segments:

- 3 fleet segments displayed a decreasing trend,
    - ➢ the beam trawlers(TBB) in the 18-24m and 24-40m length categories and
    - ➢ the pelagic trawlers (TM) in the 10-12m length category.
- 7 fleet segments displayed no clear trend.

> ➢ demersal trawlers and/or demersal seiners (DTS) in the 12-18m, 18-24m and the 24-40m length categories;

> ➢ vessels using hooks (HOK) in the 10-12m length category and

> ➢ the pelagic trawlers (TM) in the 12-18m, 24-40m and the >40m length categories.

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 has declined from 12 last year to 5, a 58% reduction, which is a positive development. The number of vessels in segments that may not be in balance has also reduced from 184 in 2017 to 88 in 2018 a 52% reduction.

DTS (demersal trawlers and/or demersal seiners) 24-40m

- 47 vessels active in 2018, a decline of 10 vessels on 2017 (-18%)

- The main stocks exploited by this fleet are *Nephrops* in 7, Celtic sea haddock, and hake, monk and megrim. *Nephrops,* hake, megrim and monkfish were all sustainably exploited in 2018. This fleet has by-catches of Celtic Sea Cod and whiting which are not sustainably exploited. Measures are in place since 2018 to reduce technical interactions.

TBB (beam trawls) 24-40m

- 8 active vessels in 2018.

- The main stock exploited by these vessels is megrim in 7 and monkfish in 7. The most recent analysis by ICES showed the primary species caught by this fleet to be harvested sustainably and the biomass to be at a safe level.

TM (midwater trawls) 18-24m

- 2 active vessels in 2018

- The main stock exploited is herring in 6a. The herring stock is over exploited but there is a monitoring TAC in place and this fleet takes minor catches as part of the monitoring programme.

TM (midwater trawls) 24-40m

- 11 active vessels in 2018.
- The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and albacore tuna. Both blue whiting and mackerel were fished above MSY in 2018 but their stock sizes were 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 2018. Albacore tuna is sustainably exploited.

TM (midwater trawls) >40m

- 20 active vessels in 2018.
- The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and boarfish. Both blue whiting and mackerel were fished above MSY in 2018 but their stock sizes were 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 2018. The stock status of boarfish is unknown but catches were below the ICES advice.

Comments on SAR Indicator Findings for Ireland

Table 2 gives the Stocks at Risk Indicator (SAR) for Ireland in Supra Region 27 for all gear and all vessel lengths by year for the time series 2008-2018.

SAR indicator was available for 8 fleet segments in 2018. For all 8 fleet segments, one or more stocks-at-risk were detected:

- 1 fleet segment with 5 stocks-at-risk,

- ➤ demersal trawlers and/or demersal seiners (DTS) in the 24-40m length category
- 1 fleet segment with 3 stocks-at-risk,
  - ➤ demersal trawlers and/or demersal seiners (DTS) in the 18-24m length category
- 2 fleet segments with 2 stocks-at-risk,
  - ➤ demersal trawlers and/or demersal seiners (DTS) in the 10-12m length category and
  - ➤ the pelagic trawlers (TM) in the 24-40m length category
- 4 fleet segments with 1 stocks-at-risk.
  - ➤ the pelagic trawlers (TM) in the 10-12m, 12-18m, 18-24m and the >40m length categories.

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

DTS (demersal trawls/seines) 10-12m
- 12 vessels active in 2018
- This fleet has catches of 2 stocks that are considered biologically vulnerable, herring in 6a and Celtic Sea Sea whiting. There is a monitoring TAC in place for herring in 6a which is around 7% of the catches of this segment. Whiting is taken as a by-catch in mixed fisheries mainly targeting Nephrops, Megrim and monkfish and accounts for only 1% of the catches of this segment.

DTS (demersal trawls/seines) 18-24m
- 68 vessels active in 2018
- The main stocks exploited by this fleet are *Nephrops* in 7, and hake, monk and megrim. *Nephrops,* hake, megrim and monkfish were all sustainably exploited in 2018.
- This fleet has catches of 5 stocks that are considered biologically vulnerable; 3 cod stocks and 2 whiting stocks. 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.

DTS (demersal trawls/seines) 24-40m
- 47 vessels active in 2018
- The main stocks exploited by this fleet are *Nephrops* in 7, and hake, monk and megrim. *Nephrops,* hake, megrim and monkfish were all sustainably exploited in 2018.
- This fleet has catches of 4 stocks that are considered biologically vulnerable; 3 cod stocks and 2 whiting stocks. 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) 10-12m
- 3 active vessels in 2018
- This fleet has catches of 1 stock that is considered biologically vulnerable in 2018. This is the herring stock in 6a where fleet takes minor catches as part of the monitoring programme.

TM (midwater trawls) 12-18m
- 1 active vessels in 2018
- This fleet has catches of 1 stock that is considered biologically vulnerable in 2018. This is the herring stock in 6a where fleet takes minor catches as part of the monitoring programme.

TM (midwater trawls) 18-24m
- 2 active vessels in 2018
- This fleet has catches of 1 stock that is considered biologically vulnerable in 2018. This is the herring stock in 6a where fleet takes minor catches as part of

the monitoring programme and herring in the Celtic Sea where again this fleet makes a minor proportion of the total catches.

TM (midwater trawls) 24-40m

- 11 active vessels in 2018.
- This fleet has catches of 1 stock that is considered biologically vulnerable in 2018. The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and albacore tuna. Both blue whiting and mackerel were fished above MSY in 2018 but their stock sizes were 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 2018. Celtic Sea herring was also not exploited sustainably in 2018.

TM (midwater trawls) >40m

- 20 active vessels in 2018.
- This fleet has catches of 2 stocks that are considered biologically vulnerable in 2019. The dominant stocks for these vessels are blue whiting, mackerel, horse mackerel and boarfish. Both blue whiting and mackerel were fished above MSY in 2018 but their stock sizes were 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.

Conclusion

There is no clear trend in indicators of balance between the fleet and the resource this year. 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, the STECF analyses do not provide any information on what the vulnerable stocks are - the tables presented simply list the number of vulnerable stocks. Ireland examined the catch profile of these fleets and attempted to match the results in the STECF table with expert knowledge of the vulnerable stocks caught by those fleets. 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 20-11 - Balance capacity - Indicator table.xlsx.

Synthesis of indicators and trends

Legend: ■ In balance ■ out of balance ■ not sufficiently profitable ■ increasing ■ decreasing ■ no clear trend ■ Null/flat

SR	FT	VL	FS name	N vessels 2018	SHI	SAR	CR/BER	RoFTA	RoI	VUR	VUR220	Inactive vessels	Inactive GT	Inactive kW	SHI	CR/BER	RoFTA	RoI	VUR	VUR220	Inactive vessels	Inactive GT	Inactive kW
NAO	DFN	VL0010	IRL NAO DFN0010	158																			
NAO	DFN	VL1012	IRL NAO DFN1012	7																			
NAO	DFN	VL1218	IRL NAO DFN1824 *	8																			
NAO	DFN	VL1824	IRL NAO DFN1824 *	4																			
NAO	DFN	VL2440	IRL NAO DFN1824 *	1																			
NAO	DRB	VL0010	IRL NAO DRB0010	144																			
NAO	DRB	VL1012	IRL NAO DRB1012 *	42																			
NAO	DRB	VL1218	IRL NAO DRB1012 *	10																			
NAO	DRB	VL1824	IRL NAO DRB2440 *	2																			
NAO	DRB	VL2440	IRL NAO DRB2440 *	5																			
NAO	DTS	VL0010	IRL NAO DTS0010	39																			
NAO	DTS	VL1012	IRL NAO DTS1012	12																			
NAO	DTS	VL1218	IRL NAO DTS1218	40																			
NAO	DTS	VL1824	IRL NAO DTS1824	68																			
NAO	DTS	VL2440	IRL NAO DTS2440	47																			
NAO	FPO	VL0010	IRL NAO FPO0010	568																			
NAO	FPO	VL1012	IRL NAO FPO1012	85																			
NAO	FPO	VL1218	IRL NAO FPO1218 *	24																			
NAO	FPO	VL1824	IRL NAO FPO1218 *	1																			
NAO	FPO	VL2440	IRL NAO FPO1218 *	2																			
NAO	HOK	VL0010	IRL NAO HOK0010	51																			
NAO	HOK	VL1012	IRL NAO HOK1012 *	7																			
NAO	HOK	VL1218	IRL NAO HOK1012 *	1																			
NAO	TBB	VL1824	IRL NAO TBB2440 *	6																			
NAO	TBB	VL2440	IRL NAO TBB2440 *	8																			
NAO	TM	VL1012	IRL NAO TM 1012 *	3																			
NAO	TM	VL1218	IRL NAO TM 1218 *	1																			
NAO	TM	VL1824	IRL NAO TM 1218 *	2																			
NAO	TM	VL2440	IRL NAO TM 2440	11																			
NAO	TM	VL40XX	IRL NAO TM 40XX	20																			
NAO	INACTIVE	VL0010	IRL NAO INA0010	548																			
NAO	INACTIVE	VL1012	IRL NAO INA1012	95																			
NAO	INACTIVE	VL1218	IRL NAO INA1218	18																			
NAO	INACTIVE	VL1824	IRL NAO INA1824	7																			
NAO	INACTIVE	VL2440	IRL NAO INA2440	6																			
IRL Total				2,051																			

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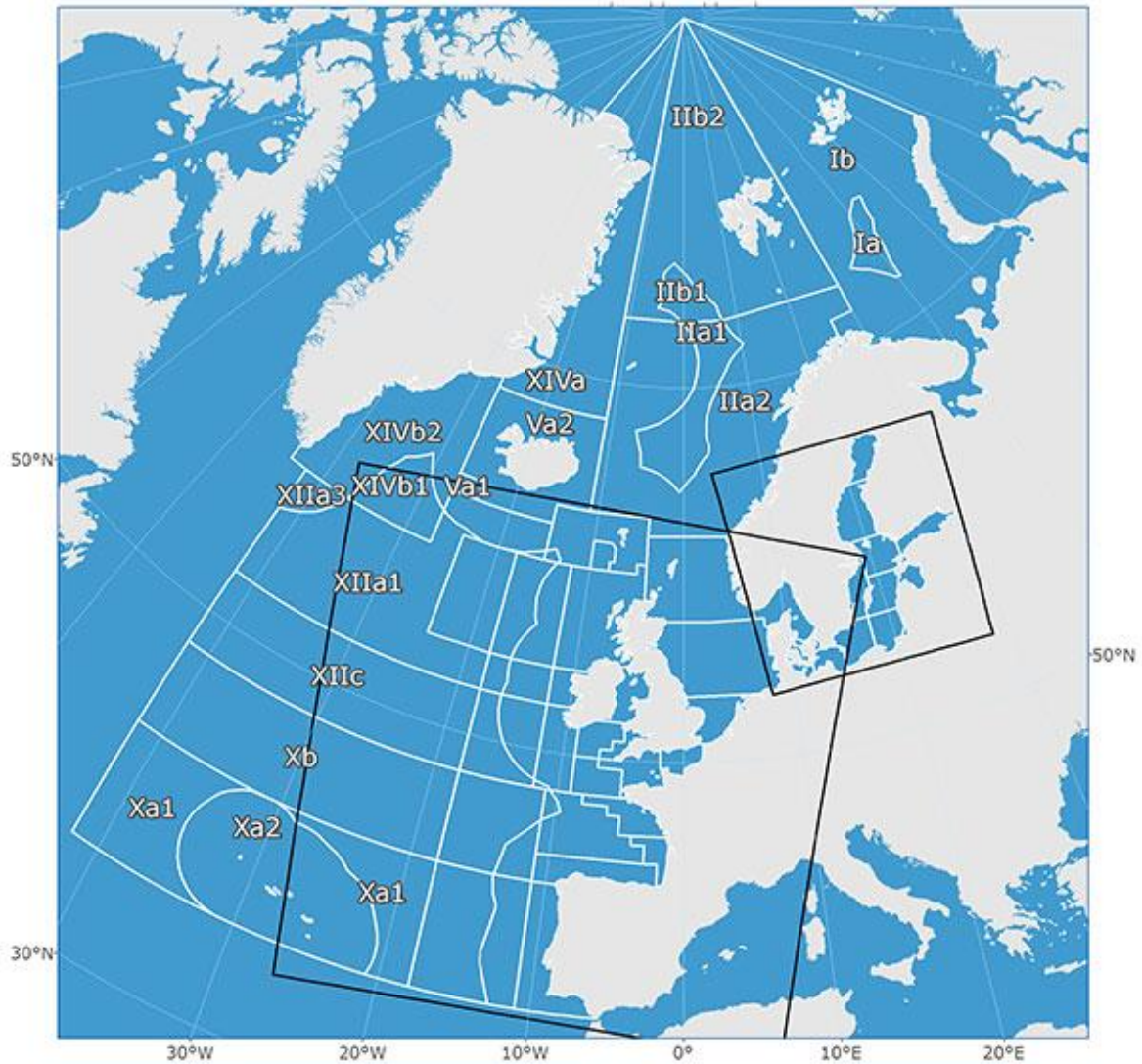
The boundaries of the Atlantic, Northeast (Major Fishing Area 27) corresponding to the ICES fishing areas for statistical purposes. (Source: http://www.fao.org/fishery/area/Area27/en)

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.

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

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

The methodology used by the member state (IRL), for the AER, is to submit landings income from the landings declarations. In this report the declared revenue from the landings declarations of those vessels that provided DCF economic survey data are compared against the stated costs from the DCF surveys. **Hence, there is no raising up of the data in this report, this is, as mentioned, a summary of the sample data, as detailed in table 1.**

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); however 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:**
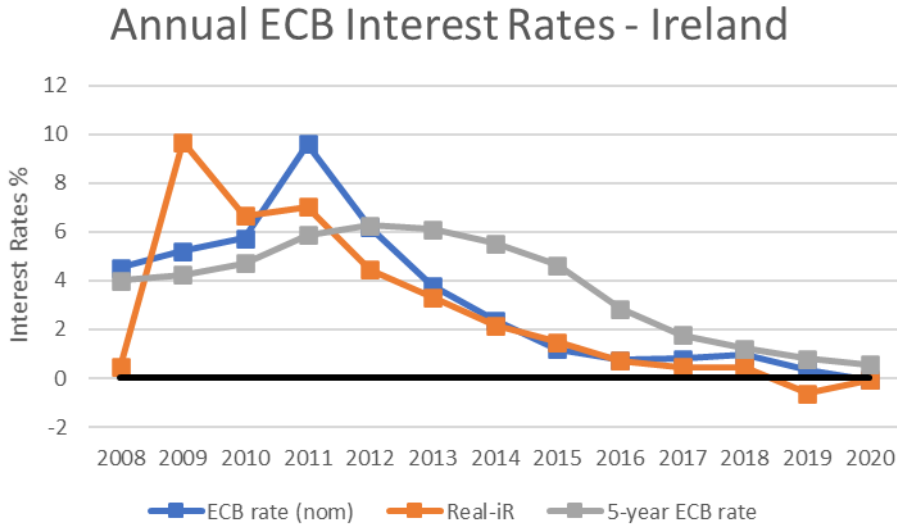
Figure 1: Nominal, real and 5 year average nominal interest rates for Ireland

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
DFNVL0010			0.29	0.21			6.57	0.84	1.38			0.65
DFNVL1012	0.15		-0.06	0.13	0.04	0.60	0.69	0.99	0.18	0.41		0.31
DFNVL1218									1.53		0.07	
DFNVL1824	0.38		0.21	0.06	1.14	0.09	6.06	0.04	0.04	0.02	0.17	0.07
DRBVL0010			0.31	0.53			5.06	1.37	1.40			0.99
DRBVL1012	7.48	2.71	0.30	2.18	0.92		12.24	1.01	0.31	0.20	1.40	0.63
DRBVL2440	-0.08	-0.01	-0.63	-0.05	-0.08	0.04	0.46	-0.12	0.30	0.73	0.46	0.08
DTSVL0010								0.48	0.60			1.73
DTSVL1012	-0.04			0.60	0.27	0.41	0.21	0.00	0.43	-0.07	-0.04	4.92
DTSVL1218	-0.01	-0.03	0.00	-0.02	0.04	0.02	0.15	0.03	0.22	0.16	-0.01	0.03
DTSVL1824	-0.06	-0.02	-0.10	0.01	0.06	-0.04	-0.08	0.03	0.29	0.10	-0.04	-0.03
DTSVL2440	-0.08	0.00	0.04	0.01	0.04	-0.04	0.02	0.08	0.14	0.09	0.06	0.08
FPOVL0010			0.41	0.48	2508.42	21.56	12.71	1.07	0.63			0.62
FPOVL1012	3.59		0.40	0.40	0.55	1.18	3.08	1.08	1.29	0.61	1.08	0.77
FPOVL1218	-0.13	-0.06	0.09	0.04	0.08	0.52	3.22	1.91	0.75	0.22	4.45	0.95
HOKVL0010				-14.13			1.54	1.78	2.25			0.57
HOKVL1012	0.62			0.26	0.03	2.96		3.38			-0.05	
TBBVL2440	-0.19	-0.19	-0.09	0.02		-0.34				0.09		0.67
TMVL2440	-0.01	-0.03	-0.02	0.08	0.00	0.06	0.21	-0.25	0.06	0.09	0.12	0.08
TMVL40XX	-0.03	0.00	0.03	0.01	0.04	0.03	0.11	0.03	0.02	0.06	0.05	
Grand Total	-0.02	0.00	0.01	0.03	0.06	0.05	0.15	0.02	0.11	0.10	0.10	0.21

Results of RoFTA:

Overall, the results for 2019 for the Irish fleet are positive with only one segment failing the RoFTA indicator, the trawl and seiner fleet of 18-24m.

All other segments pass the indicators with the important length class of 24-40m showing strong long-term profitability in 2019. Of the main pelagic fleet segments (TM) the 24-40m continues to show a steady return on fixed tangible assets in 2019. No economic survey returns were provided by the pelagic fleet above 40m therefore no indicator has been calculated for 2019.

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
DFNVL0010			4.16	1.33	6.20	7.52	4.44	6.05	4.86	13.33	10.18	7.09
DFNVL1012	1.90	-0.31	0.30	1.54	1.27	3.67	4.52	4.13	2.12	2.95	51.94	2.18
DFNVL1218										2.73	1.93	
DFNVL1824	1.90		3.14	1.25	4.96	1.76	5.82	1.17	1.26	1.12	1.94	1.39
DRBVL0010		0.61	4.86	3.87	10.79	3.19	7.97	6.60	4.68	14.58	8.71	13.26
DRBVL1012	1.75	4.35	2.88	5.91	2.46	7.77	12.53	8.35	2.45	2.44	11.08	5.73
DRBVL2440	0.59	0.85	-0.94	0.70	0.62	1.12	2.97	0.14	1.58	2.44	5.11	1.48
DTSVL0010						48.53		2.45	2.55	2.32	9.17	8.26
DTSVL1012	0.77			5.06	2.26	1.87	1.91	1.00	2.22	0.53	0.84	9.08
DTSVL1218	0.94	0.85	0.98	0.92	1.14	1.12	1.69	1.18	1.92	2.12	0.96	1.47
DTSVL1824	0.79	0.91	0.62	1.05	1.23	0.85	0.76	1.12	2.17	1.53	0.79	0.76
DTSVL2440	0.65	0.99	1.21	1.05	1.25	0.80	1.14	1.62	1.77	1.60	1.55	1.65
FPOVL0010	13.65	9.89	5.37	3.10	4.56	12.34	12.79	4.15	3.71	7.63	7.31	7.14
FPOVL1012	6.01	3.39	5.90	3.03	3.33	5.64	12.39	4.51	4.64	3.65	5.65	4.80
FPOVL1218	0.42	0.63	1.77	1.17	1.38	2.99	11.69	5.53	3.09	1.90	7.40	5.45
HOKVL0010				-0.81	12.99	7.84	11.87	4.41	8.19	13.80	10.29	6.75
HOKVL1012	2.24			5.48	1.11	5.18	10.35	9.53		2.81	0.16	2.39
TBBVL2440	0.24	0.23	0.49	1.08		0.45	1.58		6.84	1.76	4.84	9.34
TMVL2440	0.96	0.86	0.92	1.36	1.00	1.40	2.34	0.33	1.42	1.73	2.45	1.73
TMVL40XX	0.86	1.02	1.26	1.08	1.26	1.18	1.78	1.30	1.16	1.62	1.53	
Grand Total	0.88	0.98	1.09	1.20	1.33	1.31	1.92	1.11	1.68	1.77	1.87	2.70

Results of CR/BER:

The results of this indicator are positive showing the same segment that failed the RoFTA failing this indicator, namely the trawl and seiner fleet segments of 18-24m. All other fleet segments pass this indicator. Notably, the main demersal trawl segment of 24-40m passes the indicator as does the pelagic trawl segment 24-40m.

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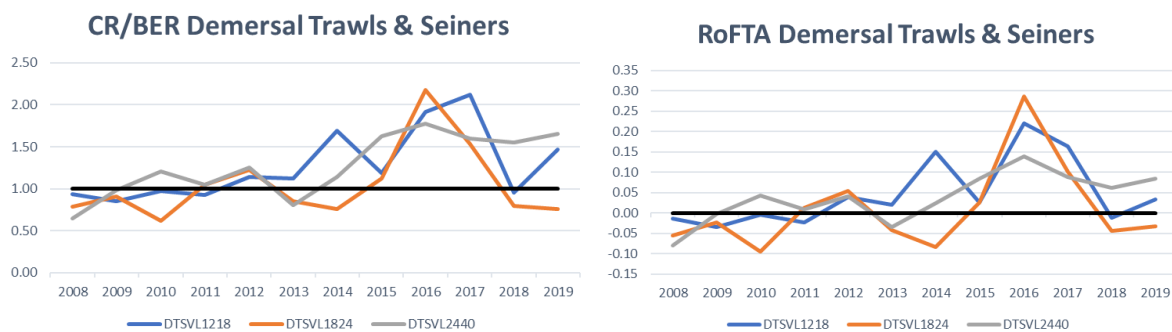
Figures 2a & 2b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for DTS length classes respectively (polyvalent general)

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 2019 one of the three length classes over 12m fail both indicators. The indicators for length class of 18-24m have fallen in 2017, 2018 and 2019, the latter two years falling into negative territory. This two year trend is worrying for the 18-24m segment however for the RoFTA indicator there has been a slight improvement in 2019. . The state of the segment should be monitored however given that the failure of the

indicator is not by a very large margin an action plan may not be required currently. The 24-40m segment continues to operate at a strong economic level.
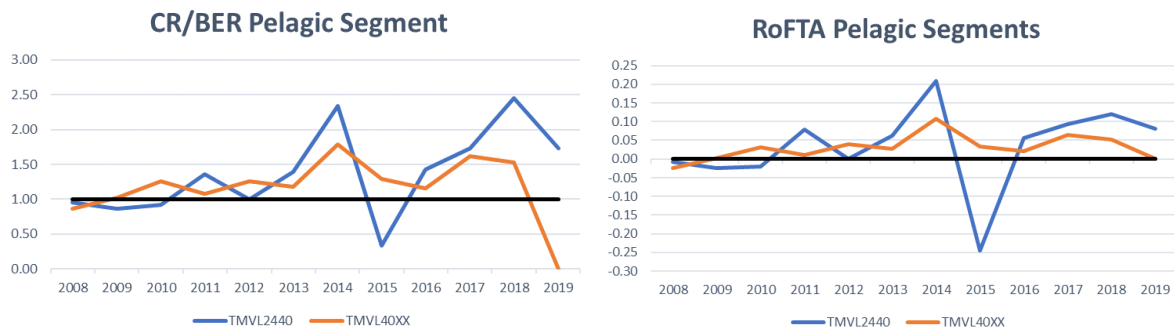
Figures 3a & 3b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for TM length classes respectively (pelagic trawlers)

No economic survey returns were provided by the pelagic fleet above 40m therefore no indicator has been calculated for 2019. Results for the pelagic segment 24-40m show positive results for 2019 again. Despite significant fluctuations in both segments since 2008 they show strong results since 2011. The length class 24-40m shows more volatile results than the more stable 40XX class. In 2019 the 24-40m class shows positive results in both indicators.
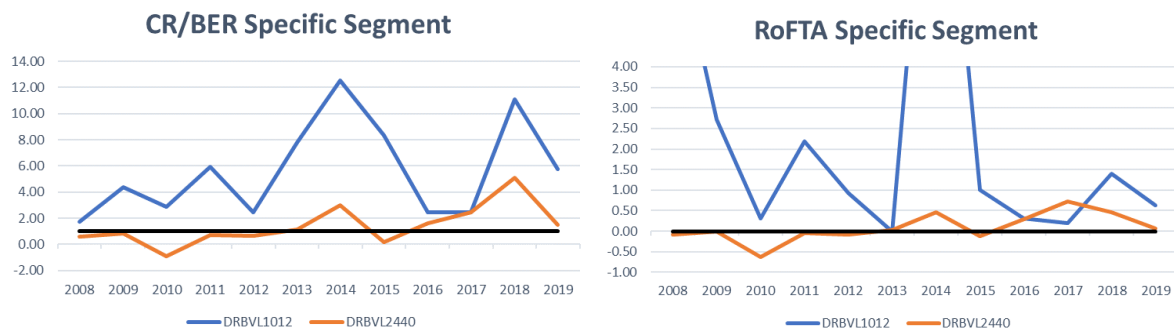
Figures 4a & 4b: Current Revenue against Break Even Revenue in the Long Term and Return on Fixed Tangible Assets for DRB length classes respectively (specific segment)

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 2019 with both segments, the 10-12m and 24-40m length classes passing both economic indicators.

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

Conclusion

This analysis shows positive results for the Irish fleet with nearly all segments passing both indicators in 2019 and in the most recent years assessed. The main worry here is the DTS 18-24m length class which failed both indicators in 2019 again after failing both in 2018. This length class had passed both indicators in years 2015-2018, but this year is the second year in a row where the indicators have been negative. Despite this the extent of failing the indicators is not extreme and the segment has recovered from similar situations in the timeline assessed. Given the strong performance of the 24-40m segment, the market conditions should permit the segment to recover and hopefully thrive. Finally, when assessed through Department of Agriculture, Food and Marine (DAFM) segments the polyvalent general 18-24m segment also fails the RoFTA and the CR/BER. The pelagic trawl segment above 40m did not provide economic surveys for 2019 so cannot be assessed. The pelagic segment 24-40m shows positive results for the last four years so it is likely the larger vessel length category also passed the indicators. Overall, the indicators for 2019 are positive from the economic point of view. Given the extraordinary events of 2020 it is highly likely that actions will be required to be carried out for a number of fleet segments.

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
Beamer	VL1824	-0.19	-2.00	-0.22	0.02		-1.16			2.44			0.57
Beamer	VL2440		-0.13	-0.04			-0.16				0.78		0.48
Pelagic	VL2440	-0.05	-0.02	0.00	0.04	0.10	-0.01	-0.06	-0.32	0.03	0.06	0.10	0.07
Pelagic	VL40XX	-0.02	0.00	0.03	0.01	0.03	0.03	0.11	0.03	0.02	0.06	0.05	
Polyvalent General	VL0010			0.33	0.45	3486	10.94	7.67	0.81	1.10	8.70		0.66
Polyvalent General	VL1012	0.63		0.24	0.37	0.33	1.12	2.28	0.99	0.65	0.49	0.74	0.82
Polyvalent General	VL1218	0.04	0.04	0.00	0.09	0.12	0.18	0.50	0.67	0.49	0.25	0.32	0.35
Polyvalent General	VL1824	0.02	-0.05	-0.09	0.01	0.05	-0.03	-0.07	0.02	0.24	0.08	0.00	-0.03
Polyvalent General	VL2440	-0.08	-0.01	0.10	0.03	0.04	0.03	0.14	0.05	0.16	0.10	0.15	0.12
Polyvalent Potting	VL0010			0.71	0.63				2.00	0.40			0.78
Polyvalent Potting	VL1012			0.69	0.78	0.61		1.53	2.72	11.76			0.89
Polyvalent Tank	VL2440	0.22	-0.18	-0.07	0.24								
Specific	VL0010			0.18	0.36				1.61	0.93			0.39
Specific	VL1012	7.48		0.25	1.74	1.56		10.32	0.91	0.18	0.20	0.88	0.76
Specific	VL1218		0.90	0.90		0.33							-0.63
Specific	VL1824	-0.14	-0.06	-1.86					-0.16	0.18	0.09		0.42
Specific	VL2440	-0.03				-0.05	0.04	0.41	0.26	0.39	0.51	0.46	0.06
Grand Total		-0.02	0.00	0.01	0.03	0.06	0.05	0.15	0.02	0.11	0.10	0.10	0.21

Annex 2 – CR/BER Irish segmentation

DAFM Segment	Length	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Beamer	VL1824	0.24	-3.14	0.29	1.08		-0.79	1.58		3.95	12.70	-8.43	8.28
Beamer	VL2440		0.29	0.70			0.74			4.62	1.63	0.91	5.41
Pelagic	VL2440	0.60	0.88	1.00	1.21	1.36	0.91	0.53	0.24	1.24	1.61	2.24	1.66
Pelagic	VL40XX	0.91	1.02	1.26	1.08	1.23	1.18	1.78	1.30	1.16	1.62	1.53	
Polyvalent General	VL0010	9.92	7.73	4.79	2.83	5.47	6.57	8.72	4.04	4.00	6.79	8.52	6.84
Polyvalent General	VL1012	3.67	4.44	3.95	2.84	2.68	4.48	9.84	4.21	3.63	3.26	4.44	4.36
Polyvalent General	VL1218	1.21	1.20	1.03	1.37	1.42	2.07	3.11	3.89	2.67	2.49	2.60	3.79
Polyvalent General	VL1824	1.07	0.79	0.66	1.05	1.18	0.91	0.78	1.10	2.01	1.42	0.99	0.77
Polyvalent General	VL2440	0.60	0.95	1.62	1.15	1.25	1.16	1.83	1.34	1.90	1.64	2.18	2.02
Polyvalent Potting	VL0010	19.75	13.34	7.63	4.53	11.23	21.48	30.18	4.49	2.97	7.00	11.22	10.86
Polyvalent Potting	VL1012		-1.58	8.38	5.33	1.46	37.57	7.39	5.62	6.07	7.69	8.31	5.73
Polyvalent Tank	VL2440	2.04	0.64	0.80	1.59								
Specific	VL0010		0.61	2.79	4.04	2.05	9.54	8.94	8.08	3.79		3.33	7.44
Specific	VL1012	1.75	0.57	2.38	5.14	2.83	8.59	13.29	7.91	2.08	2.48	8.41	7.91
Specific	VL1218		3.13	3.09		2.20							-1.92
Specific	VL1824	0.31	0.58	-2.32					-0.14	2.08	1.43		5.05
Specific	VL2440	0.84			0.70		1.12	2.82	2.24	2.79	3.84	5.11	1.35
Grand Total		0.88	0.98	1.09	1.20	1.33	1.31	1.92	1.11	1.68	1.77	1.87	2.70