

EMFF Operational Programme 2014-2020 Seafood Processing Development Measure

BIM Economic & Strategic Services Unit/ Seafood Technical Services

Sustainable Fisheries Scheme Work Programme Projects

Final Report 2020

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS001
NAME OF PROJECT: Fishery Improvement Projects
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

Fishery Improvement Projects (FIPs) are a vehicle to drive change within the fisheries sector to aid implementation of the landing obligation, improve data collection and ensure economic viability through securing and enhancing market access. They offer a mechanism to bring together an alliance of fishermen, seafood buyers and suppliers, to talk through the challenges from the landing obligation faced in a specific fishery or fisheries, identify data needs, agree on a set of priority actions that should be undertaken to improve the fishery, and then oversee an action plan. These stakeholders work together to improve a specific fishery by pressing for better policies and management, while voluntarily changing purchasing and fishing practices to reduce problems such as illegal fishing, bycatch, and habitat impacts. The FIP works through key organisations and individuals, talking through the management of the fishery and the challenges that it may face, identifying data that needs to be collected, agreeing on a set of priority actions that should be undertaken to improve the fishery, and then overseeing an action plan.

FIPs link to BIM's sustainability initiatives and certification programmes and feed into Bord Bia's Origin Green programme. They are closely aligned to one of DAFM's Statement of Strategy Strategic Goals of "delivering a sustainable, growth driven sector focused on competitiveness and innovation driven by a skilled workforce delivering value added products in line with market demands".

Each FIP includes designing and executing a stakeholder engagement plan to successfully agree on areas on development for each FIP with the relevant stakeholders of those FIPs. These are required to be detailed and recorded in specific technical workplans cognisant of fisheries science and management and environmental impacts that are acceptable to the industry, science and external scientific review of the NGOs such as Fish Source and Fishery Progress and Fish Source. These workplans must also include a benchmark against the MSC principles and scientific indicators.

During 2020 and following from a review of digital technologies and cloud-based technologies completed in 2019, a pilot study was carried out in 2020 that aimed to evaluate and identify current technology that could assist the traceability and visibility of FIP sourced seafood.

Objectives

The key objectives of the FIPs are:

- Maintain access to key markets for Irish seafood through fully operational FIPs that provide a platform for the demonstration of sustainability credentials of Irish fisheries.
- Increase competitiveness of Irish seafood in domestic and international markets by demonstrating sustainable management of key fisheries.
- Implement a change management policy in the key Irish fisheries through improvements in fishing practices and encouraging active participation in data collection programmes.
- Facilitate discussion between key stakeholders on issues relevant to key Irish fisheries.
- Test digital technologies and cloud-based technologies to monitor food safety and onboard quality as well as creating and delivering customer value of seafood emanating from participants in the FIPs through enhanced traceability.
- Progress Irish fisheries to MSC certification where required by the market.

Budget: €353,925

Achievements/Spend

The 2020 FIP programme supported the workplan progression of eight Irish FIPs; Brown Crab, Prawns, Hake, Haddock, Whiting, Saithe, Monkfish, Megrim and Albacore Tuna. There are more than 300 members including vessels, processors, agents and co-ops now registered for the different FIPs.

The following actions were undertaken under the respective FIPs:

Brown Crab

- Collaborated on an alternative bait in the whelk fishery (which uses brown crab as bait) to reduce pressure on the crab stock.
- Participated in a CPUE data collection programme, in collaboration with the Marine Institute.
- Participated in a pilot traceability scheme with processors which will include collection of data on under 10m vessels.

Prawns

- Several workshops were held with the Marine Institute to identify the main challenges to achieving MSY in the fishery and data gaps where industry data provision could assist.
- The FIP Secretariat attended the Irish Research and Science Partnership chaired by the Marine Institute.
- Collection of data on observer trips and from an industry self-sampling program facilitated by FIP member vessels. Data collection in FU 16 (Porcupine) will be particularly emphasised due to the need for additional information on stock status there.

Whitefish covering hake, haddock, whiting, saithe, megrim and monkfish

- MSC Pre-assessments were completed for saithe and the original pre-assessments for hake, haddock and whiting were updated.
- Several workshops were held with the Marine Institute to identify the main challenges to achieving MSY in the fisheries and data gaps where industry data provision could assist.
- Self-sampling programmes were developed with BIM and the Marine Institute to collect baseline data on bycatch in whitefish fisheries.
- FIP member vessels participated in gear trials with BIM and industry will be informed of trial results although the number of trials completed during 2020 was limited by Covid-19.
- FIP members participated in the BIM pilot studies with digital traceability systems.

Albacore Tuna

- Self-sampling programme carried out during the 2020 tuna fishery involving FIP member vessels.
- Update of MSC pre-assessment carried out in 2018.

In addition to the above actions, FIP members have been involved in a pilot project testing blockchain technology to enhance traceability across supply chains has been carried out successfully during 2020 with several clusters of processors and retailers. This included initial exploration of internal capabilities (IT, Data recording, quality management systems) within the pilot participants organisations. Ongoing assessments and triage for their product data, IT management and interoperability with the supply chain resulting in three options for participants to utilize successfully depending on their current resources. The pilots have been successful and have shown that the use of blockchain technology can help to maintain access and confidence along the supply chain.

SUMMARY OF SPEND:

Total Approved	€353,925.00
Total Eligible Expenditure	€341,540.15
Total Drawdown	€341,540.15
EU – 50%	€170,770.07
Exchequer – 50%	€170,770.07

Report by: Catherine Barrett

Date: 8th March 2021



BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS002
NAME OF PROJECT: National Fishermen's Development Group
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

The NFDG is an industry initiative that was set up as to provide an independent forum for discussion between practicing fishermen on practical and operational issues that relate to fishermen. The NFDG does not discuss management or structural issues such as quota management, fleet policy, licensing etc. It is designed to provide an information conduit between the representative organisations and the catching sector. Along with other initiatives such as the FIPs, it provides a forum to promote changed behaviour within the catching sector by providing a better understanding of the rules and to allow knowledge transfer.

The NFDG has met fifteen times since its inception in May 2017 and discussed a wide range of issues including technical measures and the Landing Obligation; crew issues and training; safety at sea; financial management, pensions and insurance; and increased data collection.

The NFDG has worked on several initiatives since 2017 as follows:

- Development of a user-friendly guide on reporting under the Working Time Directive as well as a "Fishermen's Handbook" providing information on Basic Seamanship, Rules of the Road, Navigation Lights and Buoys etc. It aims to raise the awareness of safety at sea and promote training.
- Met three times with the SFPA to discuss technical measures regulations and the Landing Obligation; with BIM on three occasions to discuss selective gear trials and the production of user-friendly guides to aid fishermen comply with complex technical regulations; and on two occasions with the Marine Institute to discuss data collection.
- Participated in a Marine Institute project to explore how real-time information sharing can assist fishermen in avoiding unwanted catches in an Irish context through the initial development of innovative and state-of-the-art data sharing tools.
- Engaged on three occasions with BIM to discuss training programmes and initiatives. Members of the Group participate on BIM's training strategy steering group.
- Explored the possible creation of a Register of Fishermen that would help gather data to build a better picture of the catching sector and raise its outward facing profile to the wider public as a professional and well-regulated industry. An outline of the Register has been developed and discussed with the POs and the NIFF/NIFA.
- Hosted sessions with financial, insurance and pension specialists to discuss ways of improving the working conditions for fishermen and aid retention of crew on board fishing vessels, as well as considering taxation issues for share and PAYE employed fishermen.

The NFDG aimed to work on these initiatives during 2020.

Objectives

The main objective of the NFDG is to provide a mechanism to allow dialogue between practising fishermen on a range of "grassroots" issues relating to fishing operations. Specifically, the NFDG aims to provide a platform to:

- Facilitate discussion between fishermen on technical, practical and business issues that impact on the day-to-day running of fishing vessels.

- Facilitate the provision of expert advice on relevant issues including on new and existing rules and regulations.
- Allow fishermen to share information and experiences with new technology and innovations that can improve fishing.
- Promote a positive image of the Irish fishing industry.

Budget: €179,661

Achievements/Spend

During 2020, the NFDG continued to provide through direct feedback to the Producer Organisations and the NIFF/RIFF on issues impacting on the day-to-day operation of the catching sector. However, due to Covid-19, the NFDG met only twice and the range of issues discussed in any detail restricted.

Members of the NFDG will input into BIM’s training strategy and participate in steering groups as and when required to help alleviate the crewing issues that currently exist in the catching sector. In conjunction with the NFDG a draft course Watchkeeping course has been developed directly related to new manning requirements introduced under The Fishing Vessels (Certification of Deck Officers and Engineer Officers) (Amendment) Regulations 2019, (S.I. No 673 of 2019) which gives effect to EU Regulations.

The NFDG was involved in projects identified as being important to the catching sector. To this end, members of the NFDG participated in a project to develop a software System with integrated Mobile Application Solutions for Recording of the Working Time Directive and Compliance with the CILO188 on Board Commercial Fishing Vessels. The main object of this study was to develop and test an app for the mobile devices that allows the recording of Working Hours and Hours of Rest as required under the Working Time Directive by fisherman on board of fishing vessels. The system developed aims to allow the output of records that will aid compliance with the relevant legislation. A working prototype of the App has been successfully “bench tested”, and at sea on board a sample of fishing vessels. This pilot test has allowed assessment and refinement of the functionalities. The app is ready for rollout to the wider industry in early 2021.

There has been full uptake of the budget for this project.

SUMMARY OF SPEND:

Total Approved	€179,661.00
Total Eligible Expenditure	€179,435.36
Total Drawdown	€179,435.36
EU – 50%	€89,717.68
Exchequer – 50%	€89,717.68

Report by: Dominic Rihan

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS003
NAME OF PROJECT: Strategic analysis of the operational and technical efficiency of the Irish Fishing Fleet
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

The Irish fishing fleet has undergone significant change over the last two decades because of new building and modernisation programmes balanced with capacity reduction measures in the form of targeted decommissioning schemes. Over this period, the fleet has also experienced peaks and troughs in the price of fuel, fluctuating fishing opportunities and increased pressure from markets to provide consistent, high quality seafood. These factors have driven the fleet to adapt and innovate to maintain efficiency and profitability.

To address these issues, BIM initiated a study of the Irish fishing fleet in 2019, drawing on existing economic information collected as part of the DCMAP, modernisations grants funded under the EMFF and through a national survey of the fleet's technical and operational efficiency. This study aims to provide a detailed analysis of the Irish Fishing Fleet in terms of its overall operational and technical efficiency. This analysis would provide a clear picture of the state of the Irish fishing fleet and its ability, from a technical and operational basis, to adapt to changes that threaten viability. Such changes could include increases in fuel prices, fluctuating fishing opportunities, increased pressure from markets to provide consistent, high quality seafood and competition from foreign vessels forcing the need for diversification into other fisheries. The study will look at the fuel efficiency of the fleet segments, fishing capability, carrying capacity and onboard processing capabilities.

The first part of this study was completed in 2019. Based on current DCF and Irish national fleet segments, a relevant fleet segmentation representative of the key Irish fisheries has been drawn up. This segmentation defines fishing vessel types that more adequately characterise current Irish fishery exploitation patterns and will be easily understood from an industry and a regulatory aspect. Following from this, information on the technical and operational characteristics of the individual vessels in each of these segments has begun to be collated. This includes information on fuel efficiency and range, fishing capability (e.g., winch capacity; bollard pull etc.), a description of fishing gears deployed, hold capacity and onboard processing capabilities.

Objectives

The objective of this study of the fleet is to draw together existing economic information collected as part of the DCMAP, modernisations grants funded under the EMFF and through an audit of the fleet's technical and operational efficiency to provide a deeper understanding of the current state of the fleet and its ability to adapt to challenges ahead such as climate change, new regulations, potential market shifts and increases in fuel prices and interest rates.

Budget: €121,400

Achievements/Spend

During 2020, an audit of the fleet was completed, and economic data collated based on DCF data. This involved interviews with vessel owners of representative vessels operating in the different fleet segments. However, the number of interviews carried out was limited by Covid-19. This information was used to estimate the capital value of hull by fleet segment, capital value of the propulsion and electronics and rates of depreciation. Based on the information collated, an analysis by fleet segment of the capability and resilience under certain risk scenarios (e.g., increase in fuel price; reduced quotas of key stocks; loss of key

markets; increased competition from foreign vessels) was carried out. A risk analysis and actions that could be taken to mitigate against these risks including future funding under the EMFF were identified.

The main conclusions from the study were as follows:

- 79% of Irish flagged fishing vessels are purchased from other European fleets and these are at least 10 years old when flagged in. The acquired vessels are replaced in the originating fleets by newbuilding's.
- 50% of the Irish fleet above 12m have a remnant life of less than 13 years implying a significant requirement to replenish the fleet over the next decade.
- Over the previous decades the efficiency of vessels at 10 years was comparable to that of a newbuild of the same type, size, and power. This however will not be the case for vessels built over the next decade as propulsion technologies and improved hull design will deliver vessels with upwards of 20% improved efficiency.
- The Irish fleet will be at a significant competitive disadvantage if the historical pattern of fleet replenishment continues. This competitive disadvantage will be further exacerbated by carbon taxation.
- All constraints on vessel length impose efficiency penalties of some degree on the fleet.
- For optimum operational efficiency newbuilding's should be designed keeping the *Prismatic Coefficient* above 0.57 and where practicable the ratio of *Beam to Design Draft* below 2.55.
- Presently fleet efficiency is less sensitive to limitations of length at 18m and 27.4m than at 24m as these limits have a less detrimental effect on operational efficiency than the statutory length of 24m.
- Cumulative CO2 emission by fishing vessels above 12 m was 161,500 tonnes in 2017.
- Cumulative CO2 emission is co-dependent on engine efficiencies and days spent at sea.
- At least 26% of the *Nephrops* fleet and 50% of the Pelagic fleet rely upon a single species for approximately 70% of annual earnings.
- In the event of a *no deal Brexit* 70% of *Nephrops* vessels will not be commercially viable.
- The consequence of the Covid-19 Pandemic for the *Nephrops* fleet are comparable to the effects of Brexit.
- It is probable that a consequence of Brexit and Covid-19 will be a consolidation in ownership of tonnage and kW capacity. There is a danger that such a consolidation would result in less efficient boats as owners seek to accommodate increased tonnage and power on constrained lengths.
- In the event of a *no deal Brexit* the Pelagic fleet will experience a significant reduction in profitability with the Median EBITA value dropping by 36%. This will be detrimental to future investment and vessel replacements in the segment.
- Policies pursued over the next decade will determine the character and viability of the Irish fishing fleet for the following 50 to 75 years.

This project has been completed with full uptake of the budget.

SUMMARY OF SPEND:

Total Approved	€121,400.00
Total Eligible Expenditure	€119,489.06
Total Drawdown	€119,489.06
EU – 50%	€59,744.53
Exchequer – 50%	€59,744.53

Report by: Dominic Rihan

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS004
NAME OF PROJECT: Development of a Fisheries Bio-economic Model
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

To develop a bioeconomic model to simulate the activity of the Irish fishing fleet and describe as accurately as possible the interactions between mixed and single fisheries in which they operate. The purpose of the model is to provide robust estimates of the impacts (economic, technical, and social) of proposed quota changes for stocks of relevance to the Irish fishing fleet. By simulating mixed fisheries, the model will account for the effect of choke species resulting from the implementation of the Landing Obligation on distinct fleet segments. The model will also be able to incorporate information on gear selectivity trials or avoidance measures to simulate any potential improvement in terms of extending the fishing season of affected fleets.

Objectives

The main aim of this project is to develop a fisheries bio-economic model that will simulate the activity of the Irish fishing fleet and describe as accurately as possible the mixed and single fisheries in which they operate. Using these simulations, it will be able to forecast the impacts on these fleets under different fisheries management scenarios, including changes in fishing opportunities, choke situations under the Landing Obligation and the implementation of gear selectivity and avoidance measures.

Specifically, the model should provide:

- Simulations of future stock sizes under fixed and adaptable scenarios.
- Simulations of future fleet sizes under fixed and adaptable scenarios.
- Simulations of future direct economic impact under fixed and adaptable scenarios.
- Simulations of future downstream economic impact under fixed and adaptable scenarios.
- Incorporate mixed species interactions to adequately simulate choke species scenarios.
- Incorporate information on gear selectivity trials to simulate any potential improvement in terms of extending the fishing season of affected fleets affected by the landing obligation and quota changes
- Capability of incorporating selectivity adjustments as part of simulations.
- A thorough socioeconomic impact assessment of the EU TAC setting procedure and national quotas.
- Assess the impacts of quotas, choke species and technical measures.

Budget: €87,545

Achievements/Spend

During 2020, the Marine Institute and CEFAS were awarded the contract to develop the model and several phases of the project have been completed in 2020 as follows:

- Phase 1: Collation, analysis and synthesis of available data on relevant stocks, fisheries and economic variables to condition the bio-economic model. Data has been collected from different sources (i.e., ICES, logbooks, sales notes, and BIM). A report on this phase was provided in October 2020. This report summarises the data collected to develop a bioeconomic model to assess the impact of the landings obligation on the Irish fleet. The data collected can be grouped as follows: biological (assessment, age and length), logbook (catch and effort), economic and management. The data collected for this study focuses on the five main areas in which the Irish fleet operate: West of Scotland, Rockall, West of Ireland, Irish Sea, and Celtic Sea.

- Phase 2: Model development, including data input and validation, conditioning of the simulation model and structuring to ensure the bio-economic model framework is flexible enough to deal with the management scenarios envisaged. A report on this phase was provided in December 2020. This document sets out the methodology used to forecast the short-term impact of Total Allowable Catch (TAC) management measures and the landing obligation on Irish fleets. It is intended to compliment the previous report covering data inputs. It sets out the data processing, model structure, model conditioning and key decisions for model set-up agreed during the methodology meeting held between BIM and the project team.

In 2021, phase 3, phase 4 and phase 5 of the project will be completed as follows:

- Phase 3: Continued model development through the inputting of economic variables.
- Phase 4: Model interaction and dissemination development.
- Phase 5: A detailed technical report detailing all aspects of the bioeconomic model will be provided once the model has been developed and fully tested.

The model should be fully operational and handed over by end of Q2 2021.

The budget allocation for 2020 for this project has been fully utilised.

SUMMARY OF SPEND:

Total Approved	€87,545.00
Total Eligible Expenditure	€86,121.75
Total Drawdown	€86,121.75
EU – 50%	€43,060.87
Exchequer – 50%	€43,060.87

Report by: Richard Curtin

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS007
NAME OF PROJECT: Development of a Seafood Data Centre
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

BIM as Ireland's Seafood Development Agency manages and stores a significant number of datasets, generated from a variety of sources. As the volume of data has grown there has been an increasing need to develop a Seafood Data Centre to allow management of this data in a structured way.

The lack of a centralised database within BIM severely limits the organisation's ability to disseminate information to DAFM, as well as various state agencies such as the Marine Institute in a timely efficient manner. It also limits BIM's capability of disseminate information to the wider seafood sector. The development of a Seafood Data Centre will ensure that the maximum value of data collected and stored can be achieved and that data governance is compatible with the legal obligations pertaining to state organisations involved in the collection and dissemination of data for the public good. Data security and protection are of paramount importance to BIM. Policies informing data retention and GDPR compliance are key deliverables of this project.

The Seafood Data Centre will allow the organisation and storage strategic data in a way that is standardised and accessible to the seafood sector. Additionally, database development using a web-based system for data capture is in train. This moves away from the current paper-based system for economic data collection and will yield operational efficiencies. The modern digital approach to both projects will facilitate BIM in providing strategic insight to the seafood sector ensure reduced risk and allow BIM to more easily comply with GDPR legislation on the other hand.

One of the biggest sources of this data is the Data Collection Framework. Under the Data Collection Framework, data is collected and collated annually from the Catching, Processing and Aquaculture sectors through BIM's National Seafood Survey (NSS) and pre-existing data sources. Each EU Member State must submit a National Programme outlining methodologies for collecting data along with annual report and supply data through official data requests from the European Commission.

The current DCF data system needs to be upgraded to feature a DCF database as well as an integrated web front end for data entry. The Seafood Data Centre will not only cater for DCF mandatory reporting but also will facilitate Business Intelligence capabilities, adding value to the data collected. This 'automation' approach will ensure that DCF data is organized and managed in a way that is 'best practice' and in line with BIM data strategy, policy and procedures. Developing the database in a structured way will also allow managing and integrating of other datasets going forward.

Objectives

The main objective of this project is to develop a new database system to enable data capture and reporting. This system will manage DCF data using a database structure (DB) and facilitate online data entry of NSS data. The project will also support DCF reporting and incorporate Business Intelligence (BI) modules to allow integration of the data to allow generation of outputs for the seafood sector. The Data Centre to be developed will support other relevant datasets managed by BIM and will be industry orientated whereby the capture, storage and use of data is ultimately designed to support the seafood sector in Ireland.

Budget: €100,000

Achievements/Spend

Following from preliminary work in 2019, BIM has commenced development of the database to manage and store economic data relating to key areas, including the Data Collection Framework (DCF) and Business of Seafood projects during 2020. This is based on the analysis completed in 2019, which defined the technical and functional specifications for the Seafood Data Centre (SDC).

The system to be developed will comprise of five modules:

- Development of portal for collection and uploading of data collected
- Data integration hub
- Data scaler
- Data Reporting System and Interface
- Reporting and Analytics outputs

The first two of these modules have been completed in 2020.

The technical solution being designed aligns with BIM's current IT Strategy. BIM has adopted a Cloud First strategy and is currently in the process of migrating to Office 365 for Collaboration and Communication. The strategy requires a client centric focus and Dynamics CRM has been deployed to support this objective. BIM's strategy is to host customer facing solutions and portals in enterprise cloud environments using Azure software. The data strategy aims to bring business data 'closer' together to facilitate the production of reports and building of applications that use different data sets. The DC-MAP system is the first application due for development under the new Data Strategy and will be designed accordingly. The final Data Centre will be delivered with a User Manual (DC-MAP back office system) and Operations Guides. The new system is set to be fully operational by early Q3 2021.

The budget for this project has been fully utilised in 2020.

SUMMARY OF SPEND:

Total Approved	€100,000
Total Eligible Expenditure	€100,000
Total Drawdown	€100,000
EU – 50%	€50,000
Exchequer – 50%	€50,000

Report by: Ben Dallaghan

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/ESS008
NAME OF PROJECT: Dissemination of Fisheries Information
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

The rationale for this project is to use the expertise within BIM and the data available to provide valuable commercial expertise to the seafood sector. This will be achieved by defining and developing capability to share insight and guidance to give effective guidance to the sector as it faces new trends and challenges. The services provided will facilitate dissemination of data and information to BIM and external stakeholders. The outputs will be in the form of interactive dashboards for Fleet and Aquaculture operational efficiency and regulatory guidance; quarterly “business intelligence” publication; monthly reports on legislation issues supplemented with annual workshops providing an overview of marine policy initiatives; and the production of the of the annual Fisheries Management Chart. Other services may be developed depending on demand and industry needs.

Objectives

The main objective of this project is to assist the seafood sector to be more competitive, both operationally and in the marketplace through the provision of real-time, segmented, analysed information. Such insights will assist the seafood sector in areas such as pricing (real time), value maps, business performance improvement insights and addressing industry issues such as understanding and complying with complex regulations.

The project should also help to identify market growth opportunities of scale, so that the industry can forward plan and invest appropriately with a degree of confidence. Ongoing analysis of international markets and facilitating the industries understanding of consumers both local and international is key here. BIM should identify the future talent needs of the industry and influence the attractiveness of the industry and the direction of education and skillset development that will ensure the industry has the talent it needs in the future.

Budget: €184,500

Achievements/Spend

Building on the work in 2019 and 2020, new modules covering other areas identified in a Needs Capture analysis undertaken. These new modules included the extension of the FMCO app to include inshore fisheries and aquaculture information <http://www.fisheriesmanagementchart.ie/>.

In addition, to the FMCO app, the paper version of the Fisheries Management chart that has been produced annually since 2006 was completed and disseminated widely to the fishing industry.

See <http://www.bim.ie/media/bim/content/downloads/BIM-fisheries-management-chart-2020.pdf>

Additionally, engagement with the seafood sector showed that there is an industry need to access knowledge on sectoral trends in a timely manner. Therefore, as part of this project, during 2020 BIM has worked to develop a new publication that would provide up to date thought provoking insight into the global seafood industry. As detailed in BIM’s strategy document 2018-2020, ‘Enabling Sustainable Growth’, the need for up-to-date business intelligence and insight is vital in a constantly changing seafood industry. This publication will give an objective and informative view of the business marketplace and associated activities. Each

publication will comprise of a maximum of 3-4 articles with recurring information such as trade data published at the end of the publication. The intention would be to produce quarterly publications in 2021.

During 2020, BIM has continued to provide a bespoke, independent and neutral information service to the seafood sector and internally to BIM. This service is provided by the European Bureau of Conservation and Development (EBCD). This information service details political and legislative developments relating to EU and international fisheries policy, the Integrated Maritime Policy (IMP) and environmental policies, which have a primary focus on marine and fisheries issues. The information collected is relevant to the catching and aquaculture sectors to inform on proposals and enacted legislation that may impact their operations. BIM continued to disseminate this information to the seafood sector on a regular basis where relevant. A workshop to present more detailed information on the major policy initiatives to key stakeholders to highlight the potential impacts was hosted.

There has been a small underspend in the budget for this project which relates to a delay in the publication of the first edition of the Business Intelligence report.

SUMMARY OF SPEND:

Total Approved	€184,500.00
Total Eligible Expenditure	€164,587.26
Total Drawdown	€164,587.26
EU – 50%	€82,293.63
Exchequer – 50%	€82,293.63

Report by: Ben Dallaghan

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/STS-BG001-BR005
NAME OF PROJECT: Minimising unwanted catches to address the landing obligation and improve fisheries sustainability
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

In 2020, the Fisheries Conservation Section aimed to continue developing and testing options for fishers and managers which assist in reducing unwanted catches and address challenges posed by the demersal landing obligation (LO) and improving sustainability in the catching sector. The work primarily consisted of gear modifications, survivability studies and applications for a new gear option and survivability exemption under the North Western Waters discard plan.

BIM is responsible for fishing gear technology work in Ireland. Working closely with the Irish fishing industry, BIM leads development of technical solutions which minimise unwanted catches and assist the industry in meeting challenges posed by the EU landing obligation.

The proposed work is relevant to the sustainability priority under the BIM Strategy on enabling sustainable growth 2018 – 2020, and specifically:

- Provides the catching sector with an effective technical program to reduce environmental impacts.
- Actively showcases the actions being taken by the catching sector on sustainability.
- Underpins implementation of relevant standards and schemes including Fisheries Improvement Plans, Marine Stewardship Council and Origin Green.

The work is also relevant to the following FOODWISE 2025 Sustainability actions on improving the environmental footprint of the seafood sector:

- Act against the decline of fish stocks through improved fisheries management and the focused implementation of landings obligation requirements.
- Develop a suite of measures to promote changed behaviour which will minimise juvenile catch and protect vulnerable stocks.
- Programme of gear selectivity and technical conservation measures, particularly to fulfil landing obligation requirements.

BIM work on minimising unwanted catches is of enormous value to the fishing sector. For example, the *Nephrops* survival exemption was worth around €8.7m to the sector in 2019 and will continue to generate this yield every year if the exemption remains in place. Also, the 'raised fishing line' method developed by BIM, which reduces cod catches and avoids the need for fisheries closures in the Celtic Sea under the remedial measures, is also undoubtedly of major lasting economic value. Proposed 2020 work aims to provide further gear and survivability options which help maintain resource access at a time when the Commission is actively increasing implementation of the landing obligation through remedial measures in response to relatively poor biological status of several fish stocks.

Objectives

The main objectives of this project are as follows:

- Complete three studies with the Irish fishing industry which aim to minimise unwanted catches and meet landing obligation requirements

- Based on these studies, two new applications for new gears or survivability exemptions will be made under the annual North Western Waters Discard Plan

Budget: €211,000

Achievements/Spend

The objectives were achieved with one gear study, two survivability studies and two related applications for a new gear option and survivability exemption carried out in 2020. In addition, a new guide on technical solutions to assist industry in meeting challenges posed by the landing obligation was developed. Full reports on these studies are available at www.bim.ie and summarised as follows:

100 mm T90 in the Irish Sea

BIM completed a study on a 100 mm T90 codend as a gear option for vessels targeting haddock in the Irish Sea. Alternate hauls were conducted on a single-rig trawler with time and distance minimised between the hauls for matching in subsequent analysis. The gear reduced undersize haddock by 41% and retained similar quantities of whiting and cod compared with the current standard gear, a 120 mm diamond-mesh codend. A reduction in quantities and value of small market sized haddock was offset by increased catches of plaice and other prime species in the T90 codend. A simple economic analysis demonstrated a 68% increase in total catch value with the T90 before the monthly haddock quota was utilised. In April 2020, a case was submitted to the European Commission under the joint recommendations to permit use of this gear in the Irish Sea in 2021. Following a request from the Commission in December 2020, further supporting evidence regarding the study experimental design and analysis was submitted. This information is due to be assessed in 2021.

Plaice Survivability

BIM completed two studies on plaice survivability in the Irish seine net fishery. In Q1 BIM assessed the vitality of plaice caught by demersal seining and an 87% plaice survival rate was inferred from a full survivability study conducted in a seine net fishery in Denmark. Following a recommendation from STECF, a further full captive monitoring survivability experiment for plaice in the Irish seine-net fishery was conducted in Q3. The work was carried out in a new mobile fish holding unit which can easily be transported to different locations around the coast. This reduces mortalities and potentially negatively biased results associated with transporting fish over long distances to a fixed holding system. A 70% survival result was obtained and will be used to apply for a survivability exemption in 2021.

New Guide on Technical Solutions to reduce unwanted catches

BIM updated its guide on Technical Solutions to Reduce Unwanted Catches. The guide outlines 20 solutions developed by BIM in close collaboration with the Irish fishing industry which address challenges posed by the landing obligation. Many of the solutions are included in EU legislation and implemented as management measures which drive uptake and feeds into improved fish stock sustainability.

SUMMARY OF SPEND:

Total Approved	€211,000
Total Eligible Expenditure	€211,000
Total Drawdown	€211,000
EU – 50%	€105,500
Exchequer – 50%	€105,500

Report by: Ronan Cosgrove

Date: 8th March 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/STS-BG003-BR022
NAME OF PROJECT: Responsibly Sourced Seafood Standard (RSS) and Supporting Origin Green
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

Throughout this programme BIM's objective has been to assist (financially and technically) the Irish catching sector operate to common standards of responsibility and best practice thereby contributing to the sustainability of fish and shellfish stocks. Similarly, it is the objective that a significant number of producers and onshore facilities will continue to certify against the Responsibly Sourced Seafood Standard and use this as the basis on which they underpin their membership of the Origin Green Programme.

A third-party Certification Body (CB) to undertake all audits of vessels and onshore businesses entering the scheme. This independent service will be complemented by the provision of industry based mentoring services to vessels and onshore facilities.

Objectives

The key objectives in 2020 were the investigation of stronger linkages between RSS and the FIPs to investigate the potential of using RSS as a method for verifying FIP membership and actions as part of the FIP process and further research into the sustainability requirements of the food chain and trends in important Irish markets.

The project also had the following aims:

- Technical support to companies in respect of the Origin Green Programme.
- Maintenance of the certification and audit system.
- Sustainability requirements in the supply chain report.

Budget: €161,000

Achievements/Spend

The current uptake of vessels to the RSS Fishing Vessel Standard is 26 single vessels. These are nationwide and the majority operate in coastal waters. The impact of Covid-19 through 2020 has meant that the recruitment of members to RSS had to be curtailed. Audits of vessels took place mainly through online formats and included the review of documents via the online portal set up for this purpose. Spend on audit and certifications were commensurately lower than anticipated. Current figures from the Origin Green Programme indicates that there is close to 77 seafood companies currently in application to the programme.

The Project Wave report detailing the role that sustainability plays in sourcing and purchasing decisions within the International Seafood Sector was delivered. The outcomes of the report showed the following headline findings:

- Overall highest sustainability concerns are Ocean Health; Plastic Waste; Climate Change.
- People desire sustainability solutions that offer tangibility and ease.
- Ethical Value is a close second to Functional Value for seafood decision making.
- Key sustainability areas are Water Quality; Stock Management; Sustainable Aquaculture; Plastic Waste; Traceability.
- Seafood sustainability is a Growth Multiplier; positively impacting quality and health attributes.

- Certs are welcomed and add value across species; strong MSC awareness.
- Trade buyers are focused on freshness, price and trust. Sustainability lags behind these factors.
- Sustainability messaging needs to deliver eco-empowerment by alleviating eco - anxiety and strengthening eco-identity and eco-ease.

SUMMARY OF SPEND:

Total Approved	€161,000.00
Total Eligible Expenditure	€110,882.79
Total Drawdown	€110,882.79
EU – 50%	€55,441.39
Exchequer – 50%	€55,441.39

Report by: Catherine Morrison

Date: 16th March 2021



BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/STS-BG003-BR001
NAME OF PROJECT: Clean Oceans Initiative incorporating Fishing for Litter
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

A key focus of the Clean Ocean Initiative is to prepare key stakeholders, vessels owners, the wider primary production sector, gear suppliers and key fishing ports for their role in achieving and maintaining a Clean Ocean. A key framework shaping the role of Clean Oceans is the implementation plan of forthcoming directives such as Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (known as the Single Use Plastic Directive) and Directive (EU) 2019/883, on port reception facilities for the delivery of waste from ships. Both directives are intrinsically linked to Europe's transition towards a Circular Economy and other related ambitions laid out in the EU Green Deal that was launched in Dec 2019. The Green Deal, a new growth strategy, will transform the Union into a modern, resource-efficient, and competitive economy across all sectors by boosting the efficient use of resources by moving to a clean, circular economy to restore biodiversity and cut pollution. These policies, proposals and targets in the Plastics Economy, Circular Economy, and the new Green Deal, mean that improvements to the current waste collection framework to enable streaming of plastics and differentiation of gear type fractions will need to be developed and embraced by the stakeholders.

Harbour operations and services are key participants to allow for maximum circularity of waste. The scope of the Clean Oceans Initiative is to positively engage the primary production sector in identifying appropriate actions that will contribute positively to these ambitions with special attention to improve the resource efficiency of the fishing gear with plastic and support operations both onboard and onshore to embrace the demands and responsibilities to achieve the combined objectives of directives, the Green Deal that are set down to reduce the impact of plastic on the marine environment and improve the resource efficiency.

Objectives

The key objectives of the Clean Oceans strategy are grouped under the following headings:

- **Reference:** Expand the current baseline data collection programme from Fishing for Litter to include key inputs and output of the seafood sector in order to define the waste streams coming directly from the Irish industry. This informs the direct mitigation initiatives.
- **Retrieve:** Important and substantial actions are already underway in retrieval of marine litter in the different sectors. These programmes focus on retrieval of discarded material in the marine environment.
- **Reduce:** Preventing waste from the sector becoming marine litter in the first place is perhaps the most environmentally impactful plank of the Clean Oceans Initiative. Targeting reduction in single use plastics and identifying alternatives is a clear priority.
- **Record:** A verifiable system to record and codify the litter retrieved, along with the waste collected for recycling through the "Reduce" plank is vital to the success of the Initiative.
- **Reach:** We cannot do this alone; we endeavor to work with all stakeholders to achieve our aims and support their efforts.
- **Reward:** Identifying and supporting individual and community efforts in the area of marine litter and plastics.

Budget: €231,000

Achievements/Spend

Collection, storage, and disposal of Fishing for Litter material

The total of marine litter disposed of in 2020 was 163.59 tonnes. This brings the accumulated total to 560.14 tonnes since the FFL scheme began recording annual figures in 2016. The total number of ports officially in the FFL network is 12. The total number of vessels officially registered to the FFL scheme is 244 which has a total of 1,169 crew committed to voluntarily retrieving and returning marine litter found at sea during their normal fishing operations.

Economic analysis of the circularity of nets and design of waste facilities

Defining the problem and the size of the problem was a key objective of the studies undertaken in 2020 to explore several areas/pinch points in partnership with the sector. Studies included:

- **Developing a greater understanding of the FFL waste stream:** One of the FFL waste classifications “nets” - from previous waste characterisation surveys, we now know that this includes discarded nets (34%) followed by abandoned/lost nets (21.7%) and discarded ropes (15%). This study highlighting the need to dedicate resources and assistance to the onshore management of waste.
- **Harbour Survey:** A detailed survey of the Harbour Masters was undertaken to understand current practices, what supports were required, insights on harbour management and explore types of assistance required to improve their waste management systems in line with the requirements of the PRFD.
- **Capacity Study for Waste Management Opportunities for Retired Waste Fishing Gear and Passively Fished Waste:** There are no commercial opportunities for diverting FFL as its contaminated and poor quality due to extended periods in the water. In terms of options for end-of-life gear in Ireland, there is currently just one company in Ireland that actively operates in net recycling. It is a limited service that prepares the nets for reuse, recycling, or disposal. The nets are generally nylon monofilament in terms of material composition. The company process about 100-150 tonnes of nets annually.
- **SMART NET:** This included a review Extended Producer Responsibility Organisation (EPRO) schemes, onsite visits, and interview with SMARTNET participants and a review of potential technological solutions that may help alleviate some of the issues raised. The key findings highlighted that are good precedents for EPR setup and success in Ireland, with some of these EPRS’s willing to advise and/or commercially support a fishing-gear based EPRO.

A campaign to make the public aware of the efforts undertaken by the fleet and ports was undertaken. Activation packs with vessel flags and crew hoodies were dispatched to registered members and a targeted communications campaign was conducted through local radio and print media. Opportunities to network with EU research projects and present in international dialogues especially those that had an interest in “circular” business models for net material were also exploited in 2020.

SUMMARY OF SPEND:

Total Approved	€231,000.00
Total Eligible Expenditure	€227,522.59
Total Drawdown	€227,522.59
EU – 50%	€113,761.30
Exchequer – 50%	€113,761.30

Report by: Catherine Barrett

Date: 29th January 2021

BENEFICIARY: BORD IASCAIGH MHARA
PROJECT REFERENCE NUMBER: 20/SFS/DIS001
NAME OF PROJECT: Fisheries Business Mentoring Panel
IMPLEMENTATION PERIOD: 1st January to 31st December 2020

Project Scope

The purpose of this programme is to have a panel of specialist advisors with the skills to be able to report on operational and management knowledge deficits within Irish fisheries companies. The fisheries sector has unique issues that require specialist skills to support them and to enable them to respond to local, national and global trends to stay competitive. This programme was set up as a means of showing clients what positive changes can be made within different areas of their operations where deficiencies have been identified. The skill providers (or consultants) drawn from the proposed BMP will analyse the specific operation, define where it can be improved, and advise on cost effective implementation of the recommendations.

Typically, the internal management structures of many of the Irish fisheries businesses in the SME sector are sub-optimal in certain areas. Most operations are family focused with some in the second and third generation of ownership, and often the owners have not enjoyed the benefit of formal training in management skills. This scheme is intended as a precursor to these companies employing outside professional expertise within their staff cadre. In many cases the long-established management in companies may not fully appreciate the potential gains that can be made because of making changes or improving certain operational procedures.

Generally, these businesses depend on the owner/manager to carry out a multitude of management tasks. Typically, they have a general understanding of what they need to do but sometimes they implement their change programmes poorly. When exposed to the positive experience of having a mentor on site, they generally see the importance of making changes in key areas and will seriously look at employing a skilled person to carry out the necessary improvements. This scheme will allow them to carry out a fast analysis in specific areas including Brexit to help inform them of what their options might be, before committing to contracting specialist expertise. The support may in certain instances extend to consultants who can carry out part of the necessary Brexit related tasks on behalf of the client company.

Objectives

Following consultation with BIM's Key Account Manager (KAM) to define the supports required, the resources identified will be provided to the client companies. The panel, which will be sourced in full conformity with public service procurement rules, represents a range of external business expertise, used to complement existing BIM services and knowledge.

Budget: €40,000

Achievements / Spend

This project was put in place late in 2020 as a contingency for a no-deal Brexit scenario. However, a Trade and Cooperation Agreement was agreed with the UK on 24th December 2020 and there were no immediate impacts on the catching sector that need to be addressed through this project. Therefore there was no expenditure during 2020.

SUMMARY OF SPEND:

Total Approved	
Total Eligible Expenditure	€0
Total Drawdown	€0
EU – 50%	€0
Exchequer – 50%	€0

Report by: Dominic Rihan

Date: 8th March 2021

