

**1. Have you initiated, supported, participated in or implemented any measures and/or studies relating to the avoidance of unwanted catches through spatial or temporal changes to fishing behaviour (for example, studies/pilots on real time closures)? Yes/No**

Yes

**Please specify the measures taken or studies.**

A report on a study of the impacts of the landing obligation on Irish vessels was issued in 2016. Two vessels were chartered to undertake the trial predominantly in the Celtic Sea but were also permitted to move to other areas to reflect normal fishing practices: Vessel 1, a 23 m quad-rig trawler targeting *Nephrops*; Vessel 2, a 23 m single-rig trawler targeting mixed demersal whitefish species. The study was split into two phases. Full catch documentation meant that it was possible to assess business as usual and landing obligation scenarios during each phase of the project. In Phase 1, vessels operated as normal. In Phase 2, the skippers were presented with the results of the first phase of the trial and were challenged to reduce levels of unwanted catch as much as practically possible by choosing from a range of existing mitigation tools and/or by adjusting their fishing behaviour and tactics. Cod and haddock were the main choke species. The *Nephrops* vessel was able to maintain vessel profitability under the landing obligation scenario possibly due to the use of technical measures. Spatial changes in fishing operations by the mixed demersal trawler in Phase 2 resulted in reduced catches of the main target species whiting, and greatly reduced profitability. In addition, scenarios of quota uplift and de minimis provisions were found to be of little use in addressing the challenges faced by the mixed demersal vessel in relation to low quota species such as cod and haddock. The absence of available gear modifications to separate haddock from whiting, and a major imbalance between available quotas and catches of these species is likely to raise major challenges in the mixed demersal whitefish fishery when haddock is phased in under the Landing Obligation.

[http://www.bim.ie/media/bim/content/publications/Lo%20report%202016\\_final.pdf](http://www.bim.ie/media/bim/content/publications/Lo%20report%202016_final.pdf)

Ireland continues to carry out gear studies and trials to aid in the development of appropriate measures that enable fishermen to avoid juvenile or unwanted catches, which will be very important in the successful full implementation of the policy between now and 2019. In 2016 An Bord Iascaigh Mhara (BIM) concluded a programme of work aimed at reducing catches of < MCRS *Nephrops*. With an estimated value of €49m at first point of sale in 2015, *Nephrops* is Ireland's most commercially important demersal species, and the species was phased in under the landing obligation in 2016. Assessments of an increase in codend mesh size, customised sorting grids, and square mesh codends revealed that an increase in minimum mesh size from 70 mm to 80 mm was the more effective measure for reducing catches of < MCRS *Nephrops*. Customised rigid sorting grids are also reasonably effective at reducing catches of < MCRS *Nephrops* and can also be used to substantially reduce fish catches when needed. A new

national regulation (S.I. No. 510 of 2016) in October 16 requires an increase in minimum codend mesh size from 70 to 80 mm for all Irish vessels  $\geq 12$  m that deploy more than one demersal trawl from January 2017. Over 90% of Irish *Nephrops* are landed by vessels  $\geq 12$  m using more than one trawl so this new regulation will greatly improve the sustainability of Irish demersal trawl fisheries and assist in addressing landing obligation requirements.

<http://www.bim.ie/media/bim/content/publications/BIM%20Cod-end%20Mesh%20Size%20Report%202015%20Oct.pdf>

<http://www.bim.ie/media/bim/content/publications/BIM%20Report%20Assessment%20of%20rigid%20sorting%20grids%20in%20an%20Irish%20quad-rig%20trawl%20fishery%20for%20Nephrops.pdf>

<http://www.bim.ie/media/bim/content/publications/BIM%20Report%20Assessment%20of%20square%20mesh%20cod%20ends%20in%20an%20Irish%20Nephrops%20fishery%20May2016.pdf>

<http://www.irishstatutebook.ie/eli/2016/si/510/made/en/pdf>

With an estimated value of  $\sim$  €8m in 2015, whiting is also a species of major commercial importance in Ireland which was phased in under the landing obligation in the Celtic Sea in 2016. Major success was achieved in a gear trial of T90 mesh aimed at reducing catches of undersize whiting in a mixed demersal trawl fishery targeting that species. Catches of small whiting below market size were reduced by 67% in an 80 mm T90 mesh codend compared with a standard 80 mm diamond mesh codend. The quality of the catch was also greatly improved in the T90 codend, a further incentive for Industry to use this gear.

<http://www.bim.ie/media/bim/content/publications/5536%20BIM%20Assessment%20-%20T90%20mesh%20-%20Whiting%20-%20Celtic%20Sea%20-%20ONLINE.pdf>

A new dual codend with net separator panel was successfully tested in the *Nephrops* fishery. This device separates fish catches from *Nephrops* catches into two codends facilitating different selectivity measures to be applied to different species within the *Nephrops* trawl. Building on BIM's other work to improve *Nephrops* and whitefish selectivity, an 80 mm diamond mesh codend was deployed in the bottom codend and a 90 mm T90 mesh codend was deployed in the top codend. Catches of undersize whiting and haddock were reduced by 72% and 49% respectively with no reduction in catches of *Nephrops* compared with the standard 80 mm control codend. Larger mesh sizes could be used in the top codend to further improve selectivity of fish species as required. No loss in catches of flatfish, monkfish and cod occurred in the test gear. By simply removing the top codend the gear can also effectively be used as a fish exclusion device when fish quotas are very low given a high separation rate for key fish species: 98% monk, 94% whiting, 90% cod, 90% hake, 83% haddock, 82% flatfish. Automated species separation greatly reduced catch sorting times and improved fish quality, thereby further incentivising use of this gear. The dual codend with net separator panel has major

potential to address a range of challenges posed by the landing obligation but some legislative changes are needed to maximise benefits and use of this measure. Under EC regulation No. 850/98 vessels targeting *Nephrops* are generally limited to using nets of the same mesh size range. Depending on the species composition, these mesh size ranges are 70 mm to 79 mm, and 80 mm to 90 mm. Ability to use larger mesh sizes in the top codend would make sense to facilitate greater reductions in fish catches when needed, but regional agreement on such an approach would likely be required.

<http://www.bim.ie/media/bim/content/publications/5987-BIM-Stella-Nova-Trial-Brochure.pdf>

## **2. Which fleet segments/fisheries do these measures and/or studies apply to?**

These measures apply to the *Nephrops* fishery, and mixed demersal fishery targeting whiting

## **3. What has the uptake of these measures and/or studies been in the fleet segments/fisheries to which they are applicable? Please provide the number and proportion of vessels in the segment/fishery.**

An increase in minimum codend mesh size from 70 to 80 mm will apply to all Irish vessels  $\geq 12$  m that deploy more than one demersal trawl from January 2017.

T90 mesh is currently being used by a number of vessels targeting whiting in the Celtic Sea on a voluntary basis but the precise number of vessels using the gear is unknown.

Further uptake of these measures is expected in 2017 as part of Fishery Improvement Projects (FIPs) which are being established in Ireland for *Nephrops* and Whitefish fisheries in 2017. FIPs 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 the identified 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. (See under question 14).

## **4. Have you initiated any changes to your Quota Management system to implement the landing obligation? Yes/No**

**Please give details.**

Yes. A number of changes have been made to the Irish quota management system with significant amendments to the Monkfish notifications & fishery management notifications as well as the monthly whitefish data. In addition to this a significant IT project has been initiated to look at a new Quota management system capable of dealing with quota management once the landing obligation is fully phased in. An additional catch-limit is made available each month for obligated vessels for obligated species over and above the catch limits in place to mitigate the potential choke effect on non obligated fisheries.



**5. For stocks managed through catch limits, have you conducted a quantitative analysis to identify potential national choke issues? Yes/No.**

Yes

**Please give details.**

During 2016 DAFM, BIM and the Marine Institute completed a quantitative analysis of national choke species issues as part of ongoing work with the North Western Waters Regional Group. This analysis categorised choke species into the following categories:

1. That within the Sea basin (e.g. North Sea) there is enough quota to cover total catches but that some member states individually do not have enough. An issue that member states can resolve between themselves in a regional context.
2. Within the member state there is enough quota to cover catches however there is a region or fleet segment which does not have enough. The member state can resolve this issue itself.
3. 1 and 2 above do not apply and within the relevant sea basin there is not enough of the species allocated to cover present catches or catch levels that can be realistically reduced to resulting in a total cease to fishing for a member state.

The analysis identified the following as the most problematic choke species:

- Cod - VIa, VIIa, VIIb-k
- Whiting – VIa, VIIa
- Sole – VIIa, VIIf,g
- Haddock VIIb-k
- Spurdog
- Bluefin tuna

DAFM, BIM and MI have also been working on a choke species case study considering Irish demersal fisheries in the Irish Sea. This study describes the relevant fisheries in the Irish Sea, identifies the choke species and details solutions to mitigate against choke situations through the use of existing measures under the landing obligation (e.g. improved selectivity, de minimis, Inter species quota flexibility etc) and the residual problems that these measures will not be able to solve. This study is currently being discussed with the UK and Belgium.

**6. Have you pursued any exemptions to the landing obligation (either for high survival or de minimis) in the development of regional joint recommendations? Yes/No**

Yes

**Please give details of each exemption pursued.**

Of relevance to Ireland 3 de minimis exemptions and 1 high survivability exemption were established in the discard plan for North western waters under Commission delegated Regulation (EU) No 2016/2375 for the following:

- De minimis exemption for whiting, for vessels obliged to land whiting and using bottom trawls and seines of not less than 100 mm to catch whiting in ICES divisions VIIb-VIIj.
- De minimis exemption for whiting, for vessels obliged to land whiting using bottom trawls and seines of less than 100 mm to catch whiting in ICES subarea VII (excluding VIIa, VIId and VIIe).
- De minimis exemption for Norway lobster, for vessels obliged to land Norway lobster in ICES subarea VII.
- High survivability exemption for Norway lobster caught by pots, traps or creels in ICES division VI and subarea VII

**7. What studies or evidence have you collected or produced in order to support such a request.**

A detailed analysis of previous selectivity data was completed to support the de minimis exemption for whiting for vessels using bottom trawls and seines of less than 100 mm to catch whiting in ICES subarea VII. This analysis compiled selectivity data from trials carried out in this fishery with different selective gears over the period 2010-2014. The gear options tested were increased codend mesh size and square mesh panels of 100mm, 110mm and 120mm. Data for whiting, haddock and megrim were analysed. The main findings were:

- Increasing selectivity for whiting over and above the current 80mm + 120mm smp regulation gear by increasing mesh size and/or the size of the smp leads to significant reductions in marketable whiting.
- The combination of losses of whiting and other associated species such as megrim, haddock and hake resulting from the increased selectivity observed in these trials would make this fishery uneconomic.

A gear trial testing T90 mesh codends aimed at reducing catches of undersize whiting in the mixed demersal trawl fishery targeting that species was carried out in 2016. Catches of small whiting below market size were reduced by 67% in an 80 mm T90 mesh codend compared with a standard 80 mm diamond mesh codend.

**8. What steps have you taken to ensure the amount discarded under granted de minimis exemptions does not exceed the permitted volume in the delegated act?**

The amount of discards logged has been low and not close to any limit. An SFPA leaflet has reminded fishers of their de minimis allowances. Discards logged which are potentially within a de-minimis discards, are assumed to be de-minimis and not due to other reasons e.g predator damaged .

From a coastal state perspective, SFPA has noted discards logged which are assumed to be de minimis, specifically freezer trawler boarfish, but the reckoning against volume permitted is impossible without awareness of flag state total. Similarly a difficulty in all fisheries subject to a de minimis allowance is the absence of coastal state awareness of the manner in which this de minimis allowance is distributed amongst its flag vessels. The solution would be active push of such information from flag state to coastal state.

**9. What has been the utilisation of any granted de minimis exemptions in the fleet/segment/fishery to which the exemption applies? Please provide the total weight and proportion of catch discarded under this exemption for each fleet segment/fishery to which an exemption applies.**

During 2016 Irish Vessels logged a total of 360,920kg of discards.

Of this there were 32,758kg of Nephrops discards from vessels which were Landing-Obligated for Nephrops, and 12,602kg of Whiting discards from vessels which were landing-obliged for discards. Adding these together gives a figure of 45,360kg of discards which is the maximal potential amount of discards under de minimis provisions.

In the absence of an ERS facility to differentiate the reason for discarding, those figures assume that discards logged, which are potentially within a de-minimis discards, were in fact to be de-minimis and not due to other reasons e.g predator damaged .

**10. Have any of your vessels utilised the provision to discard fish which shows damage caused by predators? Yes/No Please provide the total weight of catch of each species discarded for each fleet segment/fishery concerned**

The ERS schema does not allow the reason for discarding to be noted. Discards logged by a LO vessel with a de minimis allowance are potentially within a de-minimis discard allowance, are assumed to be de-minimis and not due to other reasons e.g predator damaged. No predator-damaged fish have been logged as discards.

**11. For stocks managed by catch limits, did you make use of the provisions for inter-annual or inter-species flexibility? Yes/No**

**Please identify which flexibility (or flexibilities) was used and the corresponding reallocation of fishing opportunities for the stocks concerned.**

No

**13. Following the adoption of the delegated act for a discard plan, have steps been taken to ensure adequate understanding among stakeholders of their obligations under the provisions of the Act? Yes/No**

**Please outline the process of ensuring stakeholders understand the obligations that will apply to them.**

**Yes. A number of meetings and workshops have been held around the country to disseminate information in relation to the landing obligation. In addition to this all vessels with a landing obligation have been written to outlining their obligations and also giving them an information booklet with all necessary information. The Control authorities (SFPA) have also provided helpful handouts about the landing obligations.**

**14. Are there any other steps not covered by the questions above that you have carried out to effect compliance with the provisions of the landing obligation? Yes/No**

Yes

**Please specify the measures taken.**

Fishery Improvement Projects (FIPs) which are being established in Ireland for *Nephrops*, Whitefish and the Albacore Tuna fisheries in 2017.

*Nephrops*

The main issue in this fishery that the FIP will address is the implementation and the impacts of the landing obligation in particular technical solutions to the reduction of unwanted catches of undersized *Nephrops* and reduction of unwanted bycatches. The FIP should also consider on board handling, marketing and quality issues relating to frozen and fresh *Nephrops*.

Whitefish

As with the *Nephrops* FIP the main issue that the FIP will address are the implementation and the impacts of the landing obligation in particular technical solutions to the reduction of unwanted catches of target and bycatch species. The FIP should also consider on board handling, marketing and quality issues.

Albacore Tuna

The main objective of the FIP for this fishery will be to achieve MSC certification. The FIP will act as a forum to initiate and address any problems that might hinder this process.

**15. Which fleet segments/fisheries do these studies/pilots apply to?**

- *Nephrops* trawlers
- Whitefish vessels targeting hake, megrim, anglerfish and haddock
- Pair pelagic trawlers targeting albacore tuna.

**16. What has the uptake been of these measures in the fleet segments/fisheries to which they are applicable? Please provide the number and proportion of vessels in the segment/fishery.**



The FIPs have only been established towards the end of 2016 so no information is available in terms of proportion of vessels involved.

**17. Has information been provided by Member States administrations and control agencies to fishermen? Yes/no**

Yes

**In what format has this information taken:**

- **Initiatives directed to fishermen to improve compliance**
- **Guidelines on the application of the landing obligation, accurate recording of catches, etc.**
- **Other**
  - Inter-agency LO briefing sessions
  - Leaflets
  - Information sent to all vessels with a landing obligation

**18. Have guidelines been provided by Member States administrations and control agencies for inspectors? Yes/no**

**In what format has this information taken:**

- **Delivery of guidelines for inspectors on the effective and uniform application of the landing obligation.**
- **Seminars and trainings organised for presenting the guidelines to inspectors at national and regional level.**
  - Seminars run by SFPA for regional port offices late 2015.
  - Similar seminar run by FP for Navy Ships captains late 2016

**19. Have new control and monitoring tools been used by Member States? Yes/no**

**Please supply information on:**

- **Control tools used in the context of landing obligation, i.e. REM, traditional systems (aerial surveillance, inspections at sea), reference fleets, etc.**
- **Steps towards implementation of new tools, including electronic monitoring means dedicated to implementation of landing obligation, haul-by-haul recording,**

Ireland has participated in the NWW Control Expertes Gropup and the recceomendations of that group are still being considered by the NWW High Level Group..

Irish fishery control has harnessed available traditional tools of landing inspection and at-sea inspection to assess risk of noncompliance with LO, but new definitive tools have not been put in place

**20. Have the Member state administrations and control authorities monitored below**

**Minimum Conservation Reference Size (MCRS) catches at and after landing**

**(traceability)? Yes/No**

**Please supply information on:**

- **Total number of discards (by fishery, fleet segment) from 2013 to 2016**
- **Initiatives taken to prevent under MCRS catches from reaching the commercial channels (pre-notification of landings of under MCRS catches, etc.).**
- **Measures taken to monitor landings at fish markets/auctions adopted.**

Yes Ireland's 2016 fishery control plan requires ongoing checks for such fish during at-sea and landing inspections, and post landing inspections of transports auction halls or processing plants. Figures provided and numbers of trips quantities logged as small, and primarily in volumes terms are pelagic and <10%. In all cases such fish are sold to processing plant approved under the Animal By-products regulations, and this is a second-sale. Therefore the <MCRS fish are included in the initial sales note from first buyer to vessel, and then traceable from first buyer to ABP plant by means of a commercial document mandated under the ABP regulations from the first-buyer to the ABP plant.

**21. Has control and monitoring been based on risk assessment? Yes/no.**

**Please supply information on the risk assessment tools used and the results obtained, including those implemented by the regional Control Expert Groups in cooperation with EFCA.**

Fishery control and monitoring is generally based upon assessment of non-compliance risks and LO noncompliance is now amongst the many relevant noncompliance risks that are assessed when deploying control resources e.g. to a landing or at-sea inspection. Risk assessment can take place at different levels including preformatted assessment of risk per fishery or fleet, or dynamic assessment of risk for individual vessels or landing. The bulk of pelagic fishing in the Irish EFZ and landed in Ireland is from vessels assessed as inherent high risk of LO non compliance by NWW CEG. There is also an entirely different subsequent level of risk assessment, which is materially affected by catch opportunity for example a vessel fishing for horse mackerel with an authorization for that species only, will pose a substantially higher risk of LO noncompliance than a vessel fishing for horse mackerel and also possessing an allowance to retain potential by-catches e.g. mackerel, whiting, boarfish.

For demersal fisheries the NWW CEG has devised a risk assessment of various fisheries with significant input from EFCA. Notwithstanding risk-assessment efforts, those demersal fisheries LO vessels in 2016 have all had remarkably little change in catch profiles pre-and post LO despite significant scientifically-modelled discards, so therefore pose high risk of noncompliance with LO. In particular instances of catches indicating particularly high risk of LO non compliance, vessels may be targeted for at-sea observed hauling..

**22. Has the “last observed haul” approach elaborated by EFCA as a tool for monitoring the implementation of the landing obligation and to derive potential targets for inspection been used? Yes/No Please give details of the fisheries covered and the extent of sampling.**

Observation of the sorting of the most recent haul, during at-sea has been used at a relatively low-frequency within context of the NWW Pelagic SCIP and also the Cod Irish Sea JDP. The primary utility of this data is that when collated this haul data provides useful data by way of reference for anticipated catches for particular gear in particular fisheries. This could subsequently contribute to understanding of baseline expectations against which individual vessel catch profiles might be compared, to inform assessment of declared catches e.g. in ERS to assess risk of noncompliance. In addition to species mix, the last haul work also gives grammes size information which could be used to inform risk assessment with landed catches, although not currently transmitted in ERS.

Additionally observation of most recent haul has also some utility as a specific follow-up risk-based targeting when a vessel has been assessed to pose particular LO noncompliance risks. However it is exceedingly difficult to extrapolate findings beyond anything other than further assessment of non-compliance risks, as difference between such observed haul and catches retained from previous non-observed hauls on that trip, might be justified through the normal inter-haul variation.

Observation of most recent haul has been found to be extremely resource intensive, and difficult to reconcile with the normal inspection time-limit within Art 104 of 404/2011. A sampling-based methodology, whereby a representative portion of the haul is characterized has more utility from a fishery control perspective.

**Information on the socioeconomic impact of the landing obligation**

**23. Using the most appropriate indicators defined below, provide information on the socioeconomics impacts on:**

- The catching sector

- Upstream businesses
- Processors
- Consumption and markets
- Costs for Member States

Economic data collected under the DCF for 2015 is being analysed. The only fisheries within this data set that were subject to the landing obligation in 2015 were the pelagic fisheries. Indicators from this dataset do not show any socioeconomic impacts that can be directly attributed to the landing obligation.

A socioeconomic project which follows on from a previous BIM/MI supported project, DAMARA, aims to develop a bio-economic model the Celtic Sea and the active fleets within it to simulate the effect of the landing obligation. This project began in late 2016 and it will apply the model to the Irish Sea and the Northwest seas off Ireland to devise fishing strategies that will optimize the economic return for Irish fleets active in these waters.

#### **Information on the effect of the landing obligation on safety on board fishing vessels**

**24. Have there been any reported incidents of overloading of vessels causing stability problems? Yes/No**

None reported

**Please specify the number and nature of such incidents.**

**Can you quantify these in terms of:**

- Number of deaths or serious injuries
- No of vessels involved as a % of the specific fleet segment

**25. Have there been any reported incidents of overloading of vessels forcing them to return to port early? Yes/No**

No

**Please specify the number and nature of such incidents.**

**26. Have there been any reported incidents or accidents on board vessels that can be attributable to excessive workload? Yes/No**

No

**Please specify the number and nature of such incidents or accidents.**

Fishermen are vocal on the impact that might accrue in terms of vessel stability and workload from sorting and logging previously-discarded catches. However in the context to-date of no

appreciable quantity of previously-discarded fish, including <MCRS fish being retained and landed, such concerns are phrased in a hypothetical context.

**27. Has any national legislation relating to safety on board fishing vessels arising from the landing obligation been amended or introduced? Yes/No**

No

**Please provide details of this legislation.**

**28. Have you provided or received any funding under Article 32 (Health and safety) of EMFF or Article 3 (Eligible operations on safety) and Article 6 (Eligible operations on working conditions) of Commission Delegated Regulation (EU) 2015/531 to mitigate against potential safety issues caused by the landing obligation? Yes/No**

Yes

**If yes, please specify the number of projects involved and the nature of the measures taken.**

Five projects have been funded under Article 32 of the EMFF principally for Personal Protection Equipment, manual handling and improving working conditions. These projects are not directly attributable to the landing obligation but have benefits for safety on board vessels subject to the landing obligation.

**If no, have any measures been taken which have not been funded under the EMFF?**

A total of 255 grants for safety equipment were paid out in 2016 under a national Fleet Safety Scheme. These grants are for a variety of safety equipment and while not directly attributable to the landing obligation have benefits for safety on board fishing vessels subject to the landing obligation.

**Information on the use and outlets of catches below the minimum conservation reference size of a species subject to the landing obligation**

**29. What have been the main reported uses and destinations for catches below mcrs?**

Fish meal, bait for shellfish fisheries and low grade pet food. It has been reported that some unwanted catches have gone to landfill.

All of the small volume and number of landings of <MCRS fish landed to Ireland have gone for processing at an approved animal byproduct plant, whose output is a feed ingredient for various animal feeds. Some of these quantities have been supplied as bait for commercial fishers. Most of the landings and quantity are pelagic and <10% of the overall quantity,

therefore allowable for direct human consumption, but they are graded out in the first sale processing plant and sold for ABP processing or bait. The main fish ABP processor in the country pays approximately €180 per tonne which would result in some value to the seller of such material if in close proximity, and would merely pay for the transport if the suppliers are distant from the ABP processor. Selling this as fish bait can attract higher prices in the order of €350 per tonne when boxed and frozen.

**Can you quantify these catches by species in terms of volumes, price per tonne and associated costs for the different outlets such catches have been sent?**

Price per tonne for fish meal is €145-€240/tonne (this is without transportation costs to the fish meal plant). Taking transportation costs into account the return to the boat is around €80-€180/tonne. The higher price is for small herring and mackerel.

Price per box for shellfish bait is approximately €10-€12 per 20kg carton for round whiting and up to €16/carton for pelagics (mackerel, scad, herring).

For petfood, the current scenario is that the companies collect for free and absorb the cost of transport thus negating the cost of disposal for fish processors who would otherwise have to pay for disposal in landfill. There is no return to the vessel.

**30. Have you carried out any studies or pilot projects considering the potential uses for such catches? Yes/No**

Yes

**Please provide details of such studies or pilot projects.**

BIM and NOFIMA are exploring potential collaborative projects in the area of SMART Ingredients. BIM is in discussion with Bioteq, a state-of-the-art Bioprocessing facility in Tromsø, for developing nutraceutical and bioactive ingredients. The potential for utilising unwanted catches for dry and wet pet foods was commenced in 2016. This project concentrates on scoping optimal emulsification and freezing technologies for use in pet food with a view to placing unwanted catches in the high end petfood market. This project will finish in 2017.

BIM will also host the annual West European Fish Technologists Association (WEFTA) in October. This conference will bring together numerous international seafood R&D specialists to discuss Technological innovations across all species categories. The theme of by-product utilisation and use of underutilised marine-origin material will be discussed in terms of

potential for further value-adding and value generation from unwanted catches emanating from the landing obligation.

**Information on port infrastructures and of vessels' fitting with regard to the landing obligation for each fishery concerned**

**31. Have you provided funding under Article 38 of the EMFF for modifications on board vessels for the handling of catches on board? Yes/No**

Yes

**Please specify the number, nature and total amount invested in such projects.**

Nine projects with a total investment of €117,000 and EMFF funding of €56,500 were approved in 2016. These projects were principally for environmentally friendly fishing gear including selective gears such as square mesh panels, coverless trawls and codends of mesh sizes in excess of the legal requirements.

In addition eleven projects were funded under Article 42(1a) (adding value to fishery products) and Article 42(1b) (investments on board that improve quality) of the EMFF. These projects involved the provision of equipment on board vessels to improve the quality of fish subject to the landing obligation; the provision of weighing scales and improvements to on board handling to improve the quality of catches subject to the landing obligation (i.e. insulated fish bins; ice machines and refrigerated storage). Total investment in these projects is €535,000 with EMFF grant aid of around €218,000.

**32. Have you provide funding under Article 43 of the EMFF for investment in the infrastructure of fishing ports, auction halls and shelters for the handling of unwanted catches? Yes/No**

No

**Please specify the number, nature and total amount invested in such projects.**

Two applications under Article 43 for major infrastructure projects to handle unwanted catches and add value to catches subject to the landing obligation have been received and are being assessed. These projects involve the provision of cold storage facilities for handling unwanted catches grading and packing and grading systems. Total investment for these two projects is estimated to be close to €500,000.

**33. Have you provide funding under Articles 68 and 69 of the EMFF for investment in marketing measures and the processing of fishery and aquaculture products? Yes/No**

Yes

**Please specify the number, nature and total amount invested in such projects.**

Five applications were received under Article 68 (1cii) for investments that support the certification and promotion of sustainable fishery products, at sea and ashore. These applications involved 45 demersal vessels and 4 onshore premises, all of which are directly impacted by the landing obligation. These projects related to certification under BIM's Responsibly Sourced Seafood Standard (RSS). Total investment in these projects was €28,000 with grant aid of €17,000.

**Information on the difficulties encountered in the implementation of the landing obligation and recommendations to address them**

**34. Please provide information on the following:**

**Operational difficulties, such as:**

- **Avoidance and/or selectivity insufficient to avoid unwanted catches**
- **Handling, storage and processing of unwanted catches**
- **Lack of funding to adapt fishing gears, vessels or port infrastructure**

**Difficulties relating to monitoring, control and enforcement, such as:**

- **Lack of understanding or awareness of the rules**
- **Difficulties implementing and monitoring de minimis or high survivability exemptions**
- **Implementation problems with regard to control/monitoring processes or infrastructure (e.g. adaptation of ERS systems)**
- **Refusal to carry observers**

**Difficulties in fully utilising fishing opportunities, such as:**

- **Problems re-allocating quota to cover catches previously not landed**
- **Problems with the timing or availability of quota swaps**
- **Fisheries being forced to close early due to choke problems**

- **Celtic Sea herring**

There was a large bycatch of whiting in the Celtic Sea herring fishery during 2017. Fishermen observed this year that the herring shoals tended to be close to the seabed meaning they had to fish their trawls "tight" to the seabed to catch herring. By doing so the bycatch of demersal fish such as whiting was higher than normally experienced in this fishery.

Reducing this bycatch in this fishery is difficult as the size and shape of the target species (herring) and bycatch species (whiting) is very similar, making sorting to the two species or releasing the whiting bycatch using escape panels very difficult. In addition the species tend to



be in the same geographic areas making avoidance difficult as well. There is no obvious technical solution to this problem.

A de minimis exemption for this whiting catch may be possible but as the catches from these vessels are generally pumped aboard vessels and stored in bulk in RSW tanks, sorting the whiting bycatch from the herring catch is difficult. Currently sorting is carried out in the processors.

- **Lack of understanding or awareness of the rules**

Specific difficulty in fishermen choosing to refer to all previously-discarded landing-obliged fish as 'discards'. This confuses discussions on dealing with MCRS catches compared where the overwhelming misconception continues to be one of all previously discarded fish being something of a special case for at-sea storage and post-landing marketability.

- **Difficulties implementing and monitoring de minimis or high survivability exemptions**

Inability of ERS system to denote reason of discarding is a difficulty here, so control authority is not aware of reason for discarding.

Lack of visibility of other Member States de-minimis allocation systems, so all Control Authorities will see is a logged discard, assume it is a de minimis discard, and assume that flag MS will reckon against the limit in the delegated act.

We are not aware of instances of the use of a high survivability discard exemption in the Irish EFZ. Some limited purse-seine pelagic fishing occurs in Irish EFZ, with potential applicability of that high-survivability exemption. However Ireland as Coastal State has not seen any logged discards logged in such fisheries. There is no fishing by Irish boats, nor in the Irish EFZ for nephrops using pots/traps/creels, so Ireland has nothing to report on that high-survivability exemption.

- **Implementation problems with regard to control/monitoring processes or infrastructure (e.g. adaptation of ERS systems)**

The ERS has always facilitated logging of discards, but these aren't included in the PNO. The ERS does not facilitate logging of discarding reason, they are just logged as discards without reason, and this is an issue. As the incoming (2018) FLUX standard was devised before the LO, particularly the additional predator-damaged discarding reason introduced in 2015, the **forthcoming FLUX introduction is not likely to fully address this issue.**

- **Refusal to carry observers**

There has been a decline in the numbers of vessels taking scientific observers which has impacted on the scientific data available. Steps are being taken to address this in order to comply with the Data Collection Framework.