Our Ref: FH—ExA-Morgan-OWFProj/24-0001

Your Ref: EN010136 – Morgan Offshore Wind Farm

Scottish Fishermen' Federation
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10 December 2024

To whom it may concern,

SFF Response to Examining Authority Questions re SFF's Comments on Morgan Offshore Windfarm Generation Assets License Application Consultation

This response to the 'Examining Authority's Questions' is presented by the Scottish Fishermen's Federation (SFF) on behalf of the 450 plus fishing vessels in membership of its constituent associations, the Anglo Scottish Fishermen's Association, Fife Fishermen's Association. Fishing Vessel Agents and Owners Association, Mallaig & North West Fishermen's Association, Orkney Fisheries Association, Scottish Pelagic Fishermen's Association, the Scottish White Fish Producer's Association and Shetland Fishermen's Association.

The SFF appreciate the Examining Authority's (ExA) questions re our written response to Morgan OWF Generation Assets License Application consultation submitted on 3rd October 2024. Following is SFF's including West Coast Sea Project Ltd (WCSP) response to the ExA's questions and 'Actions from ISH2 session held on 26th & 27th November:

Section I

SFF and WCSP responses to Examining Authority Questions

ExQ1_CF Commercial Fisheries

1. **CF 1.2_ To: West Coast Sea Products**

Q &A "**Assessment of effects on the Queen Scallop Fishery:** In [REP1-065] West Coast Sea Products (WCSP) maintains the adverse effect of the Proposed Development on the Queen Scallop Fishery as Moderate to Major for several receptors. Please could WCSP confirm:

i) Whether this magnitude of effect applies to the Proposed Development alone or to cumulative effects.

West Coast Sea Products' Answer: The major assessment by WCSP relates to Morgan since as developer says themselves will have a 5-10% impact. The major assessment also relates to both Mona and Morgan in operation with a significant spatial squeeze having been introduced.

ii) What a 5 to 10% loss of landings revenue would represent in terms of percentage loss of after-tax earnings for the fishery as a whole.

West Coast Sea Products' Answer: The volume of landings and revenue are relative to one another. I.e. a 5-10% loss in lost landings shall mean a 5-10% in after tax earnings both for catching value, catcher earnings, processing turnover, employee earnings.

iii) How the 2023 vessel monitoring system data for the Proposed Development's sea area compares with the equivalent data for 2018.

West Coast Sea Products' Answer: Please see the following plotter data screenshots:

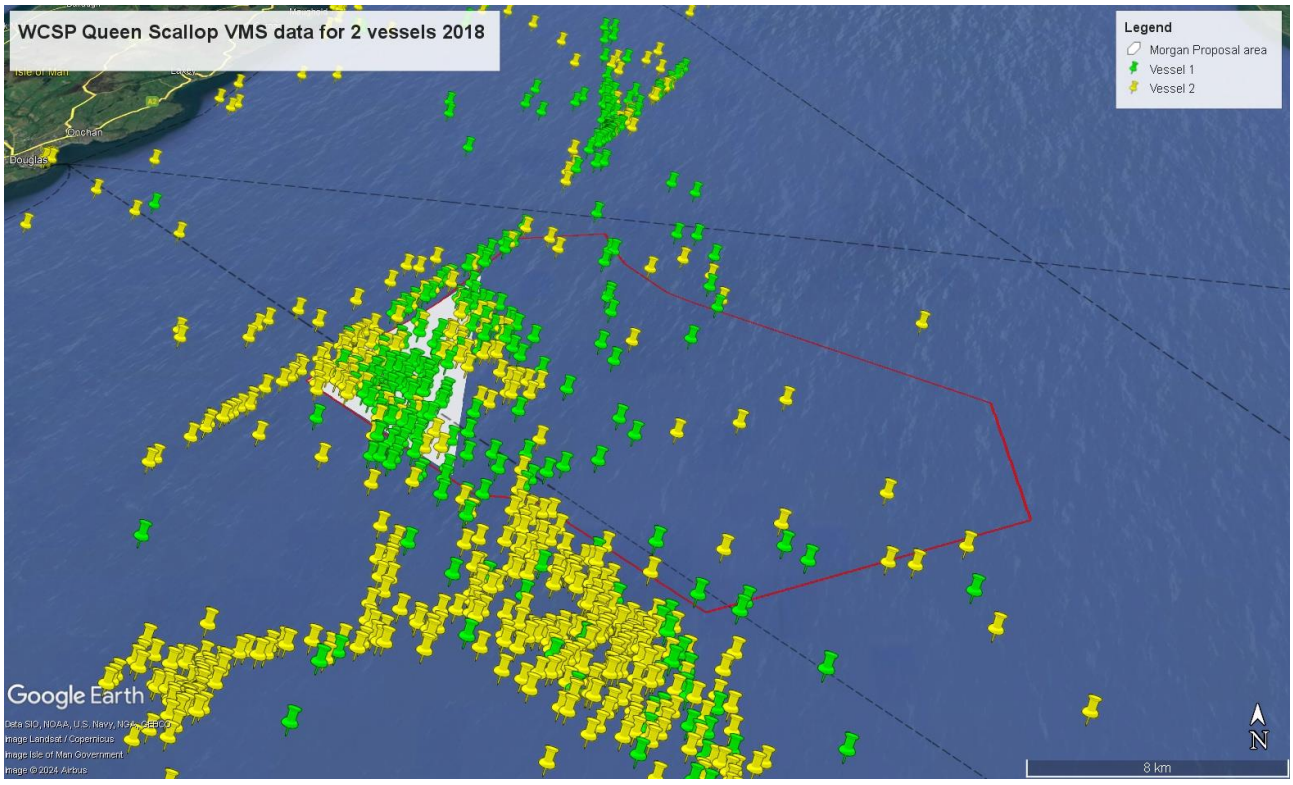


Figure 1: WCSP Queen Scallop VMS data for 2 Vessels 2018

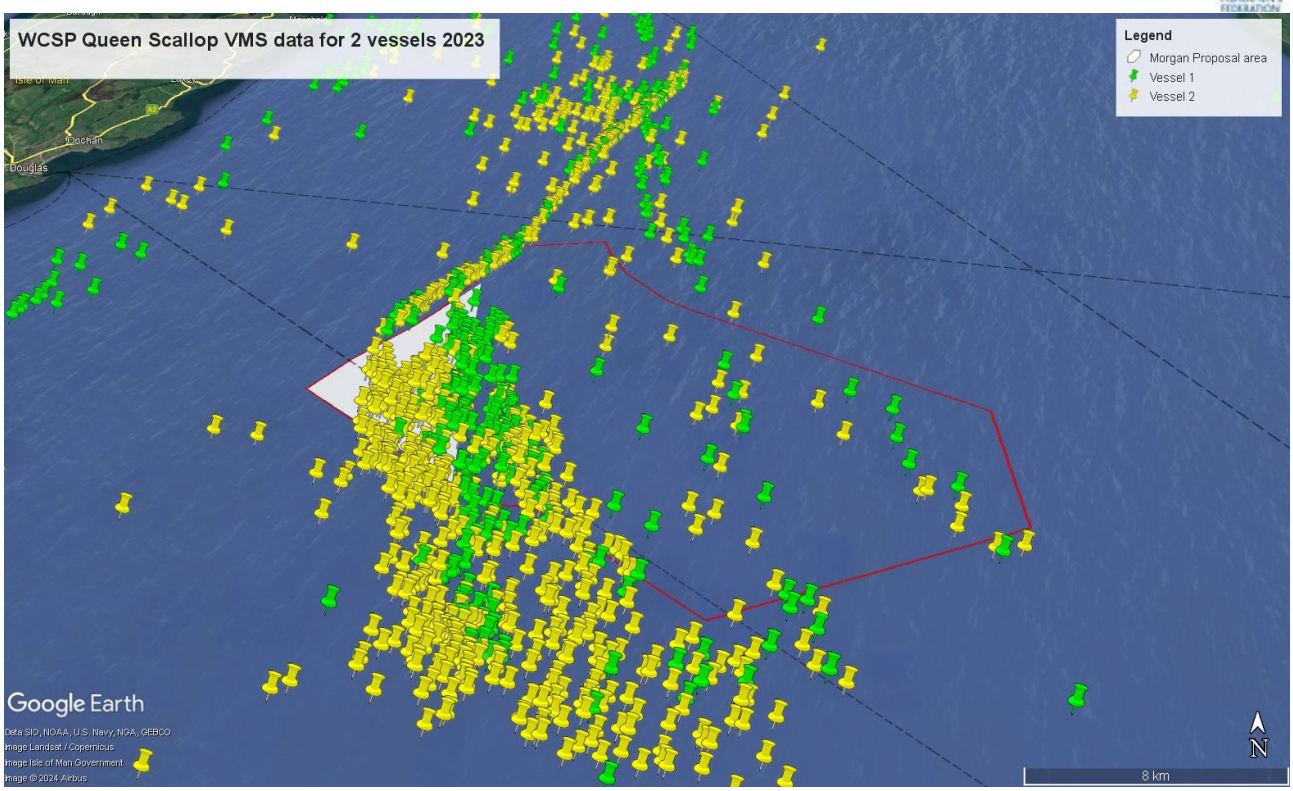


Figure 2: WCSP Queen Scallop MVS data for 2 Vessels 2023

iv) The number of vessels fishing simultaneously in the area of the Scallop Mitigation Zone (SMZ) of the Proposed Development during peak Queen Scallop fishing periods over the last 5 years.

West Coast Sea Products' Answer: The volume of landings and revenue are relative to one another. I.e. a 5-10% loss in lost landings shall mean a 5-10% in after tax earnings both for catching value, catcher earnings, processing turnover, and employee earnings.

v) The proportion of Queen Scallop spawning and nursery ground in geographic Europe which is overlapped by the Morgan and Mona proposed developments individually and cumulatively.

West Coast Sea Products' Answer: When yields are at their optimum during peak of the season there are usually 1-2 vessels operating within the proposal area of Morgan. If weather is poor, e.g. southwesterlies, then they shall fish in better shelter northeast of Anglesey, Liverpool Bay or south of Kirkcudbright closer to land.

vi) Whether scallop dredging gear can be deployed reasonably efficiently so as to avoid intermittent cable protection (where plotted on charts made available to the fishing fleet)."

West Coast Sea Products answer: This question would be better directed at the scientific community if they hold this data, as it is a data poor fishery.

vii) Whether scallop dredging gear can be deployed reasonably efficiently so as to avoid intermittent cable protection (where plotted on charts made available to the fishing fleet)."

West Coast Sea Products answer: This depends on how comprehensive the data is available to fishermen; if full information is given from cable/asset owners then skippers of vessels can lift and deploy fishing gear to avoid. The current experience of the Scallop fishing industry operating inside offshore windfarms and adjacent to telecom/power cables is that the information is data poor in terms of cable exposure and protection.

2. CF 1.3_To: Scottish Fishermen's Federation

Q. "Impact on pelagic fisheries: Please explain why you state in [REP1-059] that pelagic vessels cannot operate within the Proposed Development array area; and to what extent specific data on loss of earnings from precedent fisheries can be made available and calibrated to be relevant to this Proposed Development."

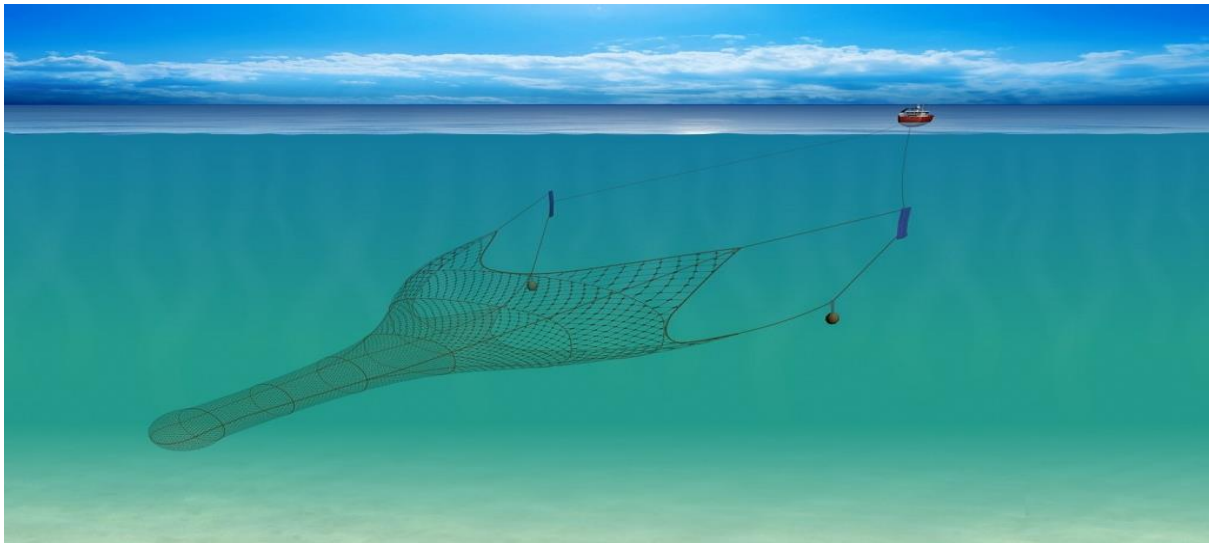
A. Scottish Fishermen's Federation's answer:

The pelagic vessels cannot operate within Proposed Development array area for the following reasons:

- **method of pelagic fishery (the pelagic vessels needs to chase a shoal of fish requiring manoeuvring for a long time until fish are caught by the net. This is not practical within windfarm with 1400m spacing),**
- **the size of the pelagic nets (e.g. a pelagic trawl can be around 200 metres wide and 150 metres deep)**
- **Size of pelagic vessels (modern pelagic vessels are 70m+ long) and**
- **for the purse seine pelagic net, the drifting nature of pelagic vessels while taking fish on board from the net.**

Please refer to below a description of three types of pelagic fishing gears for further information (Source, Seafish: Basic Fishing Methods).

1. **Pelagic Trawl (Mid-water single trawl)**

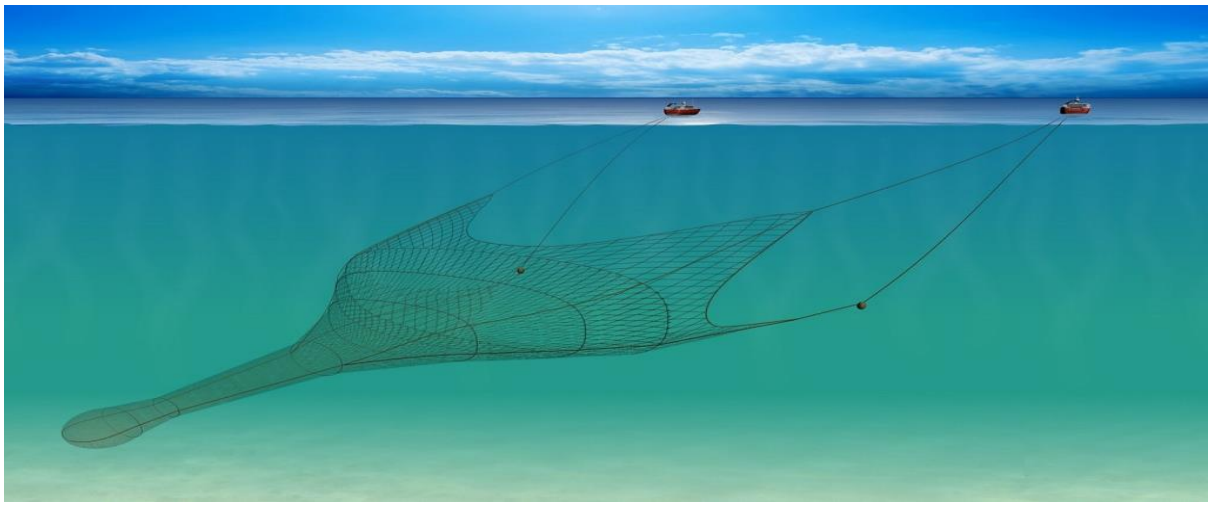


Summary

The trawl is spread horizontally by a set of pelagic trawl doors. The horizontal opening is dictated by a clump weight on the lower wing ends of the net and the rigging of the bridles between the net and trawl doors.

By altering the vessel speed and/or changing the length of trawl warp between the vessel and the trawl doors, the position of the net in the water column can be altered to suit the depth where the shoal of fish are swimming at. The nets can be very large as big as 200 metres wide and 150 metres deep but the mesh size in the mouth of the trawl are huge sometimes as big as 50 metres long.

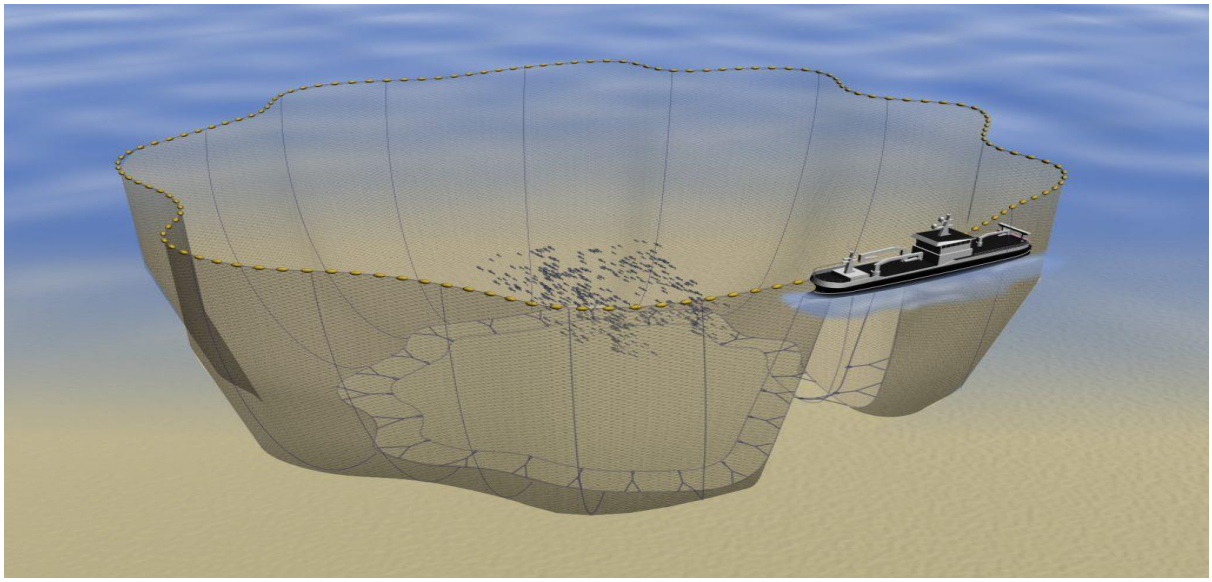
2. **Pelagic Pair Trawl (Mid-Water Pair Trawl)**



Summary

This fishing method describes a trawl towed in mid-water between two vessels to target pelagic fish. The height of the net in the water column can be changed by altering vessel speed and length of wire out. The nets can be very large as big as 240 metres wide and 160 metres deep but the mesh size in the mouth of the trawl are huge sometimes as big as 50 metres long.

3. **Purse Seine (ring net)**



Summary

A purse seine is a large net used to surround a shoal of pelagic fish. Once shot, the bottom of the net is drawn together by hauling in a long wire called the 'purse line' to form a huge cup shape of netting just below the surface of the water with the targeting fish inside. The net is gradually hauled onboard the vessel and the catch taken onboard the vessel.

3. CF 1.4_To: West Coast Sea Products or Scottish Fishermen's Federation

Q. "**Context for Queen Scallop plotter data**: West Coast Sea Products are asked to submit a figure illustrating Queen Scallop fishery plotter data giving context in relation to the whole of the Proposed Development and information on dates, period, and numbers of vessels."

West Coast Sea Products' Answer: Please see the following screenshot – not the most up-to-date footprint for some of these but gives the general Queen Scallop plotter data for Queen Scallop fishermen.

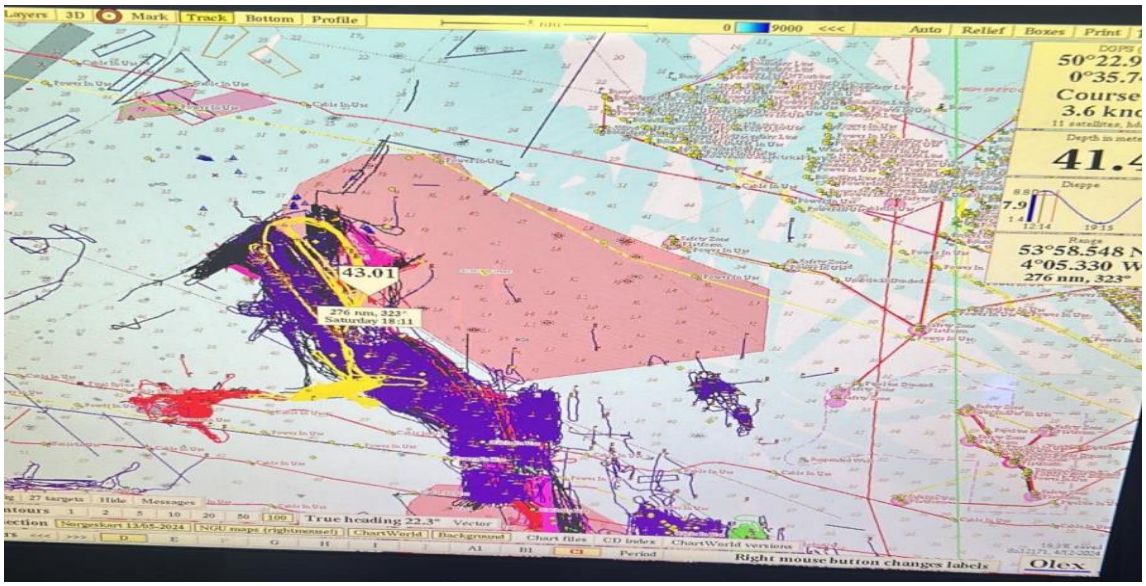


Figure 4: BA4 2015-2021_Queen Scallop fishing Morgan

4. CF 1.5_ To: West Coast Sea Products; Scottish Fishermen's Federation; and Isle of Man Government Territorial Seas Committee

"**Applicant's Response to REP1-059 regarding fishing through the SMZ:** Confirm if you are satisfied with the Applicant's Responses in [REP2-005], specifically to [REP1-059.4], [REP1-059.6], [REP1-059.11, REP1-059.14 and REP1-059.27 (and any other subsections upon which you may wish to comment) regarding Queen Scallop fishery, the SMZ and inter-array cabling; and if not, clarify why not, point-by-point and supported by evidence where possible."

West Coast Sea Products and SFF's answer:

The Scottish Fishermen's Federation and West Coast Sea Products are not satisfied with the Applicant's Response in [REP2-005] regarding Queen Scallop fishery, the SMZ and inter-array cabling; for the following reasons.

a. REP1-059.4

Q. Are West Coast Sea Products and SFF satisfied with the Applicant's Responses in REP1-059.4?

Answer: NO.

The Applicant's argument for publicly available data is irrelevant. SFF & member WCSP have made their assessment of perceived impact on recent fishing data which is relevant to them as an affected stakeholder of the development. The argument by WCSP is that over 50% of Queen Scallop fishing will be in the vicinity of OWF infrastructure which was previously untouched prior to the potential of Mona and Morgan OWF. SFF/WCSP acknowledge that there will be over a 50% increase in skippers having to fish in relation to neighbouring OWF infrastructure which may or may not have an effect on the habitat.

b. REP1-059.6:

Q. Are West Coast Sea Products and SFF satisfied with the Applicant's Responses in REP1-059.6?

Answer: NO.

It is more reassuring that the applicant has noted there will only be a single row of turbines. The response by the applicant however does not address the perimeter concerns and speaks of other irrelevant details we already agree with (i.e. 1400m spacing). We cannot support the principle of the SMZ on the basis of it being bound by turbines with no guarantee of burial. Our view may be lessened in terms of impact if we knew the CBRA which is not publicly available, therefore with the expectation of minimal burial with high exposure likelihood at a highly dynamic seabed environment we anticipate a high level of impact.

c. REP1-059.11:

Q. Are West Coast Sea Products and SFF satisfied with the Applicant's Responses in REP1-059.11?

Answer: NO.

SFF note the Applicant's statement that whilst the construction phase of both the Morgan and Mona projects may take up to 4 years, the Applicant has committed to not closing either of the Array areas during construction, therefore enabling fishing activity to continue, in/around any relevant safety zones and/or voluntary exclusion zones.

However, the SFF's comment here is based on the experience from other developers that had problem with cable burial and rock protection which resulted in over reduction of effort and annual grossing by 53% in the Array area. Therefore, we have proposed that the magnitude of impact on the receptor should be escalated for the construction phase from low to medium since there is possibility of further delay in cable burial and protection timeframe the exclude fishers from the fishing grounds. The SFF realise that, in practice, none of the developers has totally closed the array area during the construction to the fishers.

In addition, the Applicant acknowledges that the cumulative assessment has concluded that there will not be a reduction of *more than 10 %* of the annual value of landings, due to the temporary and intermittent nature of the works and the likelihood that there will be rolling safety zones during the construction phases of these wind farms. The SFF is of the view the 10% reduction in a fishing business landing/revenue is massive and the magnitude therefore on the receptor should be escalated for the construction phase from low to medium.

d. REP1-59.14:

Q. Are SFF satisfied with the Applicant's Responses in REP1-59.14?

Answer: NO.

Please refer to the SFF's response to ExA question to SFF (CF 1.3_To: Scottish Fishermen's Federation).

To reiterate SFF's concern, the pelagic vessels cannot operate within Proposed Development array area for the following reasons:

- **method of pelagic fishery (the pelagic vessels needs to chase a shoal of fish requiring manoeuvring for a long time until fish are caught by the net. This is not practical within windfarm with 1400m spacing),**
- **the size of the pelagic nets (e.g. a pelagic trawl can be around 200 metres wide and 150 metres deep)**
- **Size of pelagic vessels (modern pelagic vessels are 70m+ long) and**
- **for the purse seine pelagic net, the drifting nature of pelagic vessels while taking fish on board from the net.**

As the Applicant accepts the existence pelagic fisher within the array area supported by the following screenshot of pelagic fishery plotter data; therefore, we have proposed that the magnitude of impact to be raised from negligible to high.

e. REP1-059.27:

Q. Are West Coast Sea Products and SFF satisfied with the Applicant's Responses in REP1-059.27?

Answer: NO.

The applicant again relies upon the CBRA and really does not address our concern.

f. Other subsections

The SFF, in terms of other subsections, still reiterate concerns raised in our initial comments to Morgan OWF license application in relation to Fisheries Liaisons and Co-existence Plan (FLCP) mitigation measures (e.g. use of turbine at western corner of SMZ perimeter, extension of inter-array cable through SMZ and possibility of cable protection).

SFF reiterate that we are still not satisfied with the Applicant's response in relation to the developments impact on Queen Scallops and herring larvae and excluding Queen Scallop from Underwater Noise Control Strategy. We are of the view that Mona and Morgan are the first windfarms that are being built on Queen Scallop fishing grounds and therefore there is significant lack of science re OWF impacts on Queen Scallop.

It should also be noted that the Applicant has referred numerous times to Statement of Comment Ground (SoCG) with fishing industry. However, the main points which are important to fishing industry e.g. mitigation measures (SMZ), and routine monitoring (every 5 years) have not been agreed and are still 'ongoing points for discussion'.

Regarding suitability of the Development Array Area for spawning of herring we would like to refer it to the Frost and Diele paper (Essential spawning grounds of Scottish herring: current knowledge and future challenges—Figure 3 below).

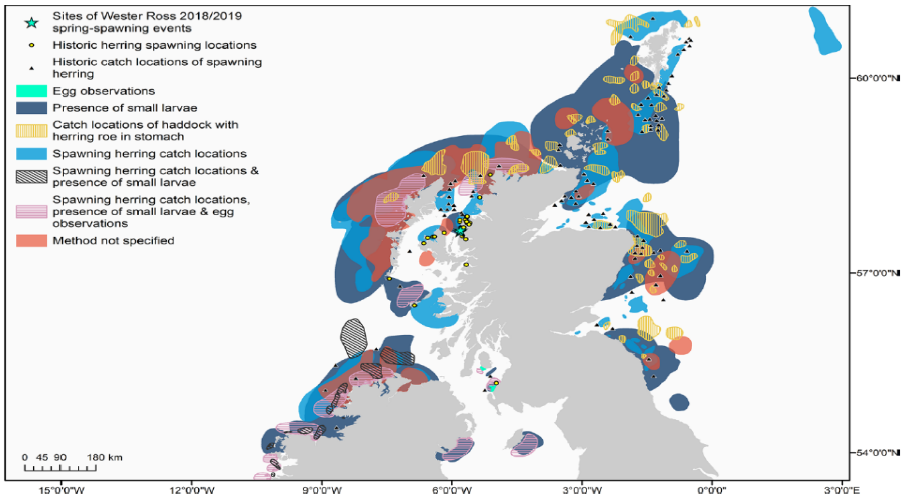


Fig. 3 Spatial data on herring reproduction, spawning grounds and larval occurrences for ICES areas IV, VI and VII (including Isle of Man) (see Table S3 for original sources). Polygons are displayed based on the different survey techniques applied, i.e., manual collection of herring eggs from the seabed or grab sampling, location of recently hatched and/or young larvae, fisheries catch locations of ripe or running herring (see Table S1 for definition of terms), location of "spawny" haddock with herring roe found in stomach contents, or a combination of methods that included all available information. Some publications did not specify how spawning ground distributions were derived. Note: herring eggs have *only* been sampled in situ in the Firth of Clyde (from 1884 to 1998) and filmed in 2018/2019 off the coast of Wester Ross. For the latter, spatially explicit data of bed locations are not available and therefore point locations were plotted instead. Point locations are also given for historic data on the catch locations of ripe or running herring and historic spawning grounds mentioned by fishers

Section II

Actions from the ISH2 Session:

Action# 16. Sottish Fishermen's Federation (SFF) and West Coast Sea Products (WCSP): Submit responses (either separate or combined) to ExA Written Questions outstanding from Deadline 3.

SFF & WCSP Response: See section I of this response.

Action# 17. SFF: Provide further evidence of the extent of existing and recent (last three years) pelagic fishing activity in and adjacent to the Morgan Proposed Development, describing seasonal characteristic relating to the scallop fishery in the same sea space.

SFF Response: The data covering the herring fishing on eastern side of the Isle of man spans from 1994 to 2023 mainly in months July-October, and includes also two instances (2017 & 2022) of the track lines from the scientific survey of herring that one boat is chartered to undertake for DAERA as part of the data that goes into the stock assessment of herring in the Irish sea. I hope the applicant is discussing with DAERA how the array will affect fisheries surveys, because this is becoming a problem in the North Sea herring surveys too. (See Plotter data screenshot below).

There has been no gear conflicts reported between pelagic and Queen Scallop fisheries in the Morgan OWF Array Area.

Action# 22. SFF: Submit any evidence regarding effects on shellfish populations at other OWFs.

SFF Response: the SFF is of the view that there are a lot of unknown regarding the OWFs effects on marine environment, especially fish and shellfish populations/stocks. Therefore, we propose

sufficient science around the impacts of OWFs should be present to show the OWFs have no effects on marine environment. Following are some articles/research papers that show possible OWFs/subsea power cable effects e.g. EMF effects on Crab, Haddock larvae from subsea power cables, and more.

Understanding the effects of electromagnetic field emissions from Marine Renewable Energy Devices (MREDs) on the commercially important edible crab, Cancer pagurus (L.) :

Exposure to Electromagnetic Fields (EMF) from Submarine Power Cables Can Trigger Strength-Dependent Behavioural and Physiological Responses in Edible Crab, *Cancer pagurus* (L.)

Underwater cables stop crabs in their tracks

Magnetic fields produced by subsea high-voltage direct current cables reduce swimming activity of haddock larvae (*Melanogrammus aeglefinus*)

Exposure to magnetic fields from subsea cables slows down haddock larvae, study finds

Acoustic Impacts of Offshore Wind Energy on Fishery Resources: An Evolving Source and Varied Effects Across a Wind Farm's Lifetime:

Could fish larvae be disturbed by offshore wind farms?

Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes:

Anthropogenic Mixing of Seasonally Stratified Shelf Seas by Offshore Wind Farm Infrastructure:

Conclusion:

On behalf of the SFF and WSCP we appreciate the opportunity to submit this written response and reiterate the **SFF robustly objects to the application as it negatively impacts our members.**

Best regards

Offshore Energy Policy Manager
Scottish Fishermen's Federation