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Fisheries Management and Mitigation Strategy

KINCARDINE OFFSHORE WINDFARM PROJECT

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Abbreviations

Abbreviation	Meaning
CAA	Civil Aviation Authority
CISI	Cobra Instalaciones y Servicios Internacional
CWIL	Cobra Wind International Ltd
ECOW	Environmental Clerk of Works
ES	Environmental Statement
FLOWW	Fishing Liaison with Offshore Wind and Wet Renewables Group
FMMS	Fisheries Management and Mitigation Strategy
FLO	Fishing Liaison Officer
KOWL	Kincardine Offshore Wind Ltd
MS LOT	Marine Scotland Licencing and Operations Team
MVAC	Medium Voltage Alternating Current
NLB	Northern Lighthouse Board
PORL	Pilot Offshore Renewables Ltd
ToR	Terms of Reference
WTG	Wind Turbine Generator

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1. Summary

The Project is considered a commercial demonstrator site, which will utilise one floating foundation technology, and will be one of the world's first arrays of floating wind turbines. It has been included within the Survey, Deploy and Monitoring scheme for offshore renewable systems (similar to wave and tidal devices).

The Project is located south-east of Aberdeen approximately eight nautical miles (nm) (approximately 15 kilometres (km)) from the Scottish coastline and provides suitable water depth for a floating offshore wind demonstrator development (approximately 60 to 80 metres (m)) (See APPENDIX B).

The Project is split into the following areas:

- The Development Area – the windfarm area including the Wind Turbine Generators (WTG) and inter-array cables;
- The Offshore Export Cable Corridor – the area within which the export cables will be laid (one is installed), from the perimeter of the Development Area to the onshore area at MHWS; and
- The Onshore Area – the onshore area above MHWS including the underground cables connecting to the onshore substation at Redmoss.

KOWL has successfully applied for the consents required for the windfarm and for the associated transmission works.

1.1. Purpose/Aim of Document

This Fishing Management and Mitigation Strategy (FMMS) sets out KOWL's approach towards:

- engaging;
- consulting;
- liaising;
- communicating; and
- undertaking mitigation actions with respect to the fishing industry during the full lifecycle of this project.

This FMMS has been developed in conjunction with the Company's Fisheries Liaison Officer (FLO). The FLO has been appointed with an interface role between KOWL and commercial fisheries interests for the full lifecycle of the development alongside the Environmental Clerk of work (ECoW) and KOWL's Consenting & Environment.

The FMMS will be completely transparent and will be fully available / accessible to fishing communities and the public; KOWL's main mechanisms for sharing information will be via the Project website, Kingfisher Bulletins/ Notice to Mariners and / or through regional and national media as appropriate. KOWL's approach to fisheries liaison includes a commitment to maintaining the FMMS, as a "live" document. KOWL will maintain, review and update it on a regulator basis, as the Project passes through its various key phases and milestones. As such certain sections of this document will be expanded as the project develops over time.

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1.2. Document Structure

Section 1 of this document sets out the scope of the FMMS and provides an overview of the Project.

Section 2 provides details of the consent conditions set for the Project.

Section 3 explains the project fisheries reporting protocol.

Section 4 covers an introduction to the Project and potential disturbance to fisheries activities.

Section 5 details fisheries management strategies, embedded mitigation and project commitments by KOWL.

Section 6 discusses the role of the FLO and appropriate compensation arrangements.

Section 7 conclusions and further work.

2. Consent Conditions

This section outlines the findings of the Environmental Statement and the Consent Conditions applied to the Project.

2.1. Section 36 Consent Conditions

Within Marine Scotland's Marine Works EIA Consent Decision letter dated 13th February 2017 the following conditions were placed on the Project.

The Company must, no later than 6 months or at such a time as agreed with the Scottish Ministers, prior to the Commencement of the Development, submit a Fisheries Management and Mitigation Strategy ("FMMS"), in writing, to the Scottish Ministers for their written approval. The Company must also join and participate in the Forth and Tay Offshore Wind Developers Group – Commercial Fisheries Working Group ("FTOWDG-CFWG"), or any successor group formed to facilitate commercial fisheries dialogue, to define and finalise the FMMS.

In order to inform the production of the FMMS, the Company must monitor or collect data as relevant and agreed with Scottish Ministers in terms of the ES and ES Addendum and any subsequent monitoring or data collection for:

1. *iv) the impacts on the adjacent coastline;*
2. *v) the effects on local fishermen; and*
3. *vi) the effects on other users of the sea.*

As part of any finalised FMMS, the Company must produce and implement a mitigation strategy for each commercial fishery that can prove to the Scottish Ministers that they would be adversely affected by the Development. The Company must implement all mitigation measures committed to be carried out by the Company within the FMMS. Any contractors, or sub-contractors working for the Company, must co-operate with the fishing industry to ensure the effective implementation of the FMMS.

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2.2. Environmental Statement

KOWL has produced an Environmental Statement (ES). The ES and supporting documents (ES Chapter 5 Fish & Shellfish and Chapter 14 Commercial Fishing) give greater detail on the issues identified. The ES is available to view here on the Scottish Government website¹. Below is a summary of the main findings of the ES as it relates to impacts on commercial fisheries.

Development Area Impact Assessment

The magnitude of effects was determined to be low for all receptors and impacts identified within the Development Area. This was assessed within the context of the temporary duration of the construction activities and temporary safety exclusion areas during construction and prior to the Wind Turbine Generators (WTGs) units' installation. In addition, construction is confined to a very small area of locally available fishing grounds.

Effects of Construction Activities

The Commercial Fisheries Operations that could potentially be most affected during the construction period (Export cable installation only – two phases 2018 and 2020) were assessed as:

- Nearshore Brown Crab:
- Velvet Crab; and
- Lobster Shellfish Fisheries, all undertaken by Static Gear (Creeling /Potting – see Appendix A of the ES) Methods.

There are low level scallop fisheries in the Development Area which account for the most prevalent type of fishery activity. To a lesser degree, squid is also seasonally targeted, often using reconfigured bottom trawls. In addition, there are low level shellfish fisheries targeting crab and lobster; dominant in the Offshore Export Cable Corridor. It is recognized that fishing intensity for shellfish increases closer to the shore.

During construction and installation phases there will be some disturbance along the Export cable route as the cable is installed. However, this should be taken in context relative to the regional and local fishing area and that this will be over a very short time frame (i.e. only during construction/installation).

Impacts will be caused by the presence of vessels, machinery and safety/exclusion zones during construction and may affect fishing vessels operating in the vicinity of the Development Area or Offshore Export Cable Corridor. During operation and maintenance, the impacts identified will be caused by the presence of turbines and associated infrastructure. The impacts identified are described in the Kincardine Offshore Windfarm Environmental Statement March 2016 Chapter 14 page 562 onwards (See Foot Note 1 for link to MS-LOT website for all submitted documents). After impact assessment these impacts were assessed as not significant.

It is not likely that the construction schedule of the Project will overlap in time or location with any other marine developments identified in the region. In addition, the Project is small scale and construction will be broken into various tranches.

¹ <http://www2.gov.scot/Topics/marine/Licensing/marine/scoping/Kincardine>

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Due to the distance to other existing and consented windfarms from the Project and the construction schedule being broken into tranches, it is concluded that there will be no cumulative impacts associated with increased steaming time to fishing grounds.

Following the satisfactory completion of post-construction surveys fishing vessels will regain some degree of access to fishing grounds within the operational Development Area and all fishing should be able to resume within the Offshore Export Cable Corridor. The only area that will be off limits to all vessels will be the exclusion zone around the site during major O&M activities.

KOWL will at all times, seek to achieve appropriate fisheries mitigation through various means, including Regular Industry Communication/ Information Promulgation Mechanisms, including, for example, the Kingfisher Fortnightly Bulletin, Notices to Mariners, relevant industry journals, trade publications and newspapers - both local and national. Additionally, KOWL is committed to undertaking regular information exchange and update meetings with appropriate fishing bodies, including the Scottish Fishermen's Federation (SFF) and local fishermen. This is facilitated through the FLO's network of contacts and through contributing to and support of relevant cross industry forums, as appropriate.

Effects of Decommissioning Activities

Potential effects from decommissioning are less than the worst-case effects assessed in the construction phase (Section 5.4.1 of Original ES). The decommissioning approach is described in Chapter 2 of the Original ES. A decommissioning plan has been prepared and submitted in accordance with the requirements of the Energy Act 2004 and subject to approval by the Scottish Ministers (via Marine Scotland Licencing Operations Team (MS-LOT)) prior to implementation. This FMMS will be updated to reflect the requirements of the decommissioning plan which would follow appropriate up to date consultation with the fishing industry.

Currently, no seabed preparation for cables will be required for the removal of the inter-array cables, mattresses, mooring lines and anchors causing a minimal amount of material to be suspended in the water column. There will be no other works or structures used, such that the scale of works will be no greater than that of the construction phase. It is therefore considered that the identified impacts will be no greater than those predicted for the construction phase.

3. Project Fisheries Reporting Protocol

KOWL have a clear fishing reporting protocol for engagement with the fishing community and clear lines of communication with both the fishing industry and also local inshore fishermen that are likely to interact with the Project during the construction and operation of the development. Below are the responsibilities and reporting pathways for which KOWL are responsible for implementation across the Project. Figure 3-1 shows the structure of the Project Team in relation to the fishing engagement plan, with the Consenting and Environment and the FLO acting as points of contacts within KOWL for the fisheries interest groups and local inshore fishermen.

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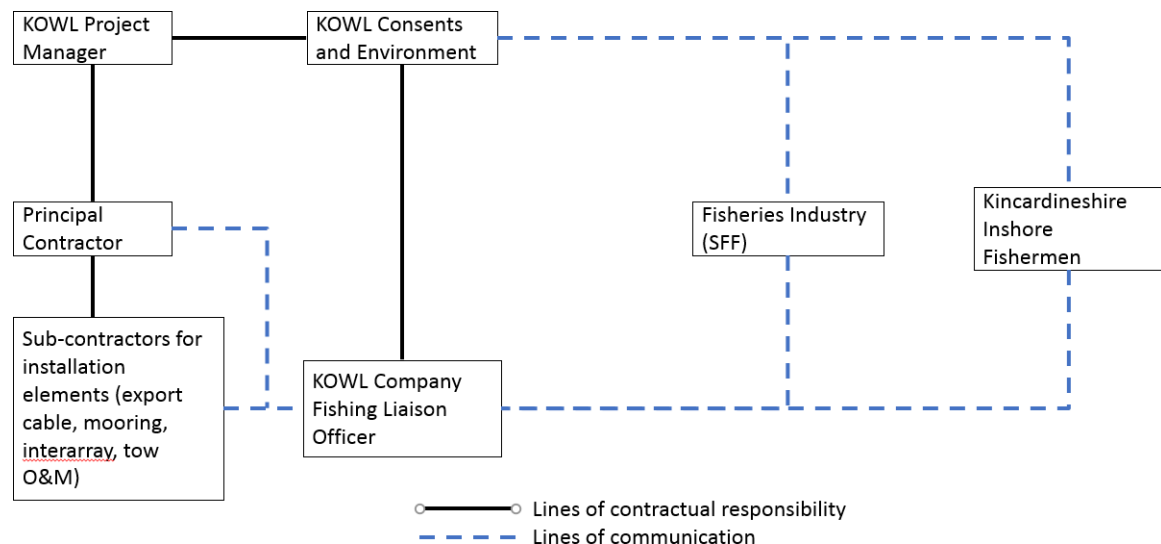


Figure 3-1 KOWL Project Team for engagement with fishing community

Roles and responsibilities

Project Manager – Employed by KOWL to manage the effective delivery of the pre-construction, construction and operational and maintenance phases of the Project.

Consent and Environment – Employed by KOWL for the effective management of all consent, planning permission and marine related activities associated with the Project, including environmental monitoring requirements across the Project. Manages the ECoW and FLO as part of the Project.

Company FLO – The person appointed under Consent Condition 26 of the Section 36 Consent. The FLO must be appointed by KOWL for the period from commencement of the development until the final commissioning of the development. Their responsibilities include establishing and maintaining effective communications between KOWL, any contractors or sub-contractors, fishermen and other users of the sea concerning the overall project. The provision of information relating to the safe operation of fishing activities at the Development site and also cable route. Finally ensuring that information is made available and circulated in a timely manner to minimise interfaces with fishing operations and other users of the sea.

Principal contractor – CWIL (Cobra Wind International Ltd) will be the principal contractor for the effective delivery of the construction phase of the project and will liaise with the KOWL project manager.

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4. Project Overview

4.1. Introduction

KOWL propose to develop the windfarm by installing six anchored/ floating turbines, optimally arrayed, within approximately 62m to 80m water depth, by harnessing bespoke semi sub foundation technologies / engineering solutions (hubs) and, connecting to the onshore grid connection at the existing electricity substation at Redmoss. This will be achieved by means of two looped 33kV MVAC trench buried cables. Cable burial depths will be as per the standard industrial practice, with a target depth of burial of 1.5m. Depth of burial will be verified post cable installation to ensure sufficient burial has been achieved. APPENDIX B below illustrates the cable route corridor back to the Aberdeenshire coastline. This will be narrowed upon the completion of the cable corridor assessment and will be communicated via the cable burial plan that will be produced as part of the project consent conditions.

The development will consist of the following main components:

- A total generating capacity of up to 50 MW;
- The initial wind turbine installation will be a 2MW machine (Summer 2018);
- The wind turbines will be installed on semi-sub substructures;
- 19 mooring anchors installed;
- Interconnector cables between turbines and array lines;
- Two buried or (if burying not possible) mechanically protected subsea 33kV export cables; directionally drilled from the shoreline to a water depth of approximately 20m;
- Minor ancillary works such as the metrological buoys and floating LiDAR systems;

4.2. Fisheries Activities

A Comprehensive Description of Fishing Methods Common to Scottish Waters is Contained within the Original ES.

A useful summary of the fishing methods most relevant to the Development Area is summarised within Appendix A of the Original ES, including the static gear, scallop dredge trawling, and trawling operation types typical to the locality. KOWL recognises that fishing techniques and fishing patterns can change overtime and is committed to monitoring pertinent developments.

4.3. Project Programme

Various offshore activities commenced in May 2018 and the Project is anticipated to be fully commissioned by October 2020, full details of which can be found in the KOWL-REP-0004-001 – Construction Programme.

The Project has the capacity to produce up to 50MW, enough to power approximately 35,000 homes. The Project will offset approximately 71,000 tonnes in CO₂ annually.

The Development has an anticipated Lifespan of 25 Years, with the potential option to re-power after this time period. This would be subject to new marine consents and appropriate licences.

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4.4. Disturbance within the Project Site

Development Area

In order to minimise disturbance to fishermen within the Development Area the following commitments will be adopted:

- Consultation with the fishing industry and other identified parties on establishing appropriate safety zones / exclusion zones statutory / voluntary during the various construction, installation phases, all in line with industry standard and practice;
- A commitment to minimise the requirement for safety zones during the operational phases of the Project, but ensuring safe working zones around each structure for all marine activities including fishing;
- Timely dissemination of the as installed positions of turbines, anchor arrays / patterns and any other relevant project related hardware, including but not limited to:
 - marker buoys;
 - Cardinal buoys; and
 - wave rider buoys etc.
- Ensuring the marking of turbines in accordance with appropriate navigation standards and guidance (UKHO, NLB, CAA).

Intra Array Cable

A KOWL commitment is to seek to achieve, where practicable, maximum cable seabed burial / trenching in respect of all subsea electric cables associated with the Project; all in line with the cable design, industry guidelines and project licence conditions. To minimise disturbance to fishermen within the inter-array the following commitments have been adopted:

- The development and publicising of the project cable burial as-built drawings;
- Consultation and notification in respect of those areas where cable burial may not be achievable, in part, or in full and where cable protection may therefore be afforded by rock/gravel placement, or where necessary mattress installation as appropriate; in line with industry guidelines and project licence conditions;
- Consultation on the preferred export cables routes, and where practicable and feasible, fine tuning the nearshore route approaches in the context of fishermen's input / comments;
- Establishment of temporary voluntary exclusion zones during cable installation operations; and
- A commitment to undertake cable burial survey of the cables/cable routes and feedback to fishermen on any issues arising and, as appropriate consult with all relevant parties on any action plan / remediation required.

Note that the Intra Array Cable assessment should also take into account the mooring spread and resulting sea bed obstructions (anchors) that will be installed as part of the development.

Mooring Systems for Turbines

A KOWL commitment to seek to achieve, where practicable, minimise the potential impact from the development mooring system (significantly reduced due to the reduction of turbines on the development as per the original consultation discussions); all in line with the mooring design, industry guidelines and project licence conditions. To minimise disturbance to fishermen from the mooring systems the following commitments have been adopted:

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- The development and publicising of the project mooring locations as-built drawings;
- Consultation and notification in respect of those areas where mooring systems will be deployed and in line with industry guidelines and project licence conditions;
- Establishment of temporary voluntary exclusion zones during cable installation operations; and
- A commitment to undertake regular mooring system surveys (as described within the O&M programme) and feedback to fishermen on any issues arising and, as appropriate consult with all relevant parties on any action plan / remediation required.

Note that the mooring assessment should also take into account the cable installation that will be installed as part of the development.

4.5. Disturbance within the Offshore Export Cable Route

A KOWL commitment to seek to achieve, where practicable, a target burial depth of 1.5m for the export cables, with due cognisance of the cable design, industry guidelines and Project licence consent conditions. To minimise disturbance to fishermen along the cable export route the following commitments have been adopted:

- The development and publicising of the project cable burial as-built drawings;
- Prompt consultation and notification, in particular with SFF, in respect of those areas where cable burial may not be achievable, in part, or in full and where cable protection may therefore be afforded by rock / gravel placement as appropriate, or where necessary mattress installation takes place; all in line with industry guidelines and Project consent conditions (currently up to 10% of the export cable length is permitted to be protected if required)
- If required the use of the SFFs rock dumping assessment will be used to inform suitable rock dumping sizes to meet the local fishing requirements² (KOWL would seek to avoid rock dumping in the first instance);
- Consultation on the preferred export cables routes, and where practicable, fine tuning the nearshore routes approaches in the context of fishermen's input/comments;
- Establishment of temporary voluntary exclusion zones during cable installation operations; and
- A commitment to undertake a cable burial survey of the cables / cable routes and feedback to fishermen on any issues arising, and as appropriate consult with all relevant parties on any action plan / remediation required.

4.6. KOWL Project Contractors – Roles and Responsibilities

KOWL have commissioned CWIL as the Principal Contractor for the construction of the Project. As such CWIL will be responsible for fully complying with the relevant requirements of this FMMS and for updating and amending it as required in conjunction with the appointed FLO and ECoW.

The Roles and Responsibilities (to be developed following their appointment) for the Key Contractor(s) is likely to be:

² SFF rock berm assessment and rock grade selection testing (west coast fishery) reference to be confirmed by SFF.

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- Pre-construction, operational and post construction surveys;
- Inter-array cable installation (utilising as appropriate cable laying, trenching and support vessels);
- Export cable trenching and laying with cable vessel and support vessel as required;
- Installation of the wind turbine anchoring points (with sub-contractors for additional barges, anchor handing tugs and towing tugs as required);
- Commissioning of wind turbines with vessel transfer for crews for topside completion works.

KOWL will retain responsibility for the operational phase of Kincardine Offshore Windfarm, undertaking maintenance works in accordance with this FMMS.

5. Fisheries Management and Mitigation Strategy

5.1. Philosophy

KOWL seeks to always undertake all aspects of its relevant business and operational endeavours in an open, transparent and constructive manner. KOWL will always conduct its activities in compliance with:

- all relevant legislation, regulations, codes of practice; and
- appropriate industry standards and guidelines.

KOWL will seek to always engage with relevant stakeholders, neighbouring communities and industries in an open, transparent and constructive manner, seeking to minimise impact / disturbance, whilst seeking to maximise opportunity for all relevant parties.

KOWL is constantly committed to achieving mutual understanding, awareness and co-existence with the fishing industry.

5.2. KOWL Assurances

With the overriding philosophy of co-existence in mind, the following assurances have been set for the Project.

- to further facilitate engagement and relationship building with the fishing industry, KOWL have appointed a Company FLO, for the full life cycle of the Project (see section 4.5). The FLO Terms of Reference (ToR) incorporates FLOWW³ guidance regarding FLO duties, obligations and recommendations.
- KOWL have sought early and positive outreach with relevant fisheries communities, with the sustained aim of fostering an atmosphere of mutual understanding and awareness, founded on regular, constructive and open communication and engagement.
- KOWL have sought to understand the nature, types and risks to and from the development in respect of fishing activity in the Project locality.
- prioritising consultation with those fishermen who are most directly affected by the proposed development.
- ensuring ongoing engagement with the following bodies, through the FLO:

³ FLOWW - <https://www.thecrownestate.co.uk/energy-minerals-and-infrastructure/offshore-wind-energy/working-with-us/floww/>

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- fishing representative organisations;
 - fishing and marine government departments;
 - statutory bodies;
 - local planning authorities;
 - NGOs; and
 - others as the Project develops over time.
- maintaining a long-term commitment to fishing communities that active fishermen can safely continue with fishing operations within both:
 - the Development Area; and
 - along the Offshore Export Cable Corridor.
- an affirmation that KOWL has already engaged with relevant fishing bodies, fisheries agencies and indeed, where appropriate, individual fisherman, since Project concept. Consistent engagement with these entities remains an ongoing priority. Engagement has and will continue to evolve through the following mechanisms:
 - meetings;
 - briefings;
 - email information;
 - awareness notifications;
 - regular telephone call updates;
 - the issuance of practical marine and fisheries notices;
 - Kingfisher Bulletin updates;
 - Notice to Mariners; and
 - directives towards KOWL's website.
- a log of contacts / communications will be maintained along with an audit trail.
- to recognise that relevant information, interests, concerns and viewpoints of fishermen are, where practicable, continually incorporated and feedback into KOWL's development and operational plans.
- to develop an internal protocol / guidance procedure for relevant KOWL personnel, subcontractors, project operational vessels with respect to information, understandings and interfaces with the fishing industry through this FMMS.
- to build up and maintain, throughout the lifecycle of the project, stakeholders, a live data base of fishing related contacts, including such information as:
 - vessel name, registration, call sign, home port.
 - vessel type / length / tonnage details.
 - nationality.
 - fishing licence category.
 - status full-time / part-time / recreational / other.
 - vessel/ skipper contact etc. details.
 - fishing methodology, gear types, gear characteristics.
 - fishing localities / operations / patterns / seasonality / timings.
 - Observations / comments / recommendations / sensitivities / concerns of individual fishermen.
 - Up to date KOWL contacts details when appropriate and inform stakeholders through e-mail communication.

5.3. Fishing Community Fund

KOWL have expressed their intention to invest in wider community funding programmes, via an appropriate local fishing community fund that will aim to provide support to local fishing communities

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to improve facilities and health and safety of the industry. The mechanism for realising this is under discussion with the Scottish Government and appropriate fisheries bodies.

5.4. Embedded Mitigation

The following embedded mitigation measures have been taken into consideration:

- An existing Regional working group will be used to provide a forum for collaborative discussion and action in relation to the Project;
- A FMMS (previously a construction management plan but this format is more appropriate) has been developed (this document) in consultation with the fishing industry representatives which establishes a protocol for engagement between KOWL and the fishing industry;
- 500m safety zones around working areas during construction, decommissioning and any major maintenance activities. Consultation with relevant stakeholders will ensure efficient and effective implementation and management of safety zones during operations;
- Structures within the Development Area will be marked and lit in accordance with Northern Lighthouse Board (NLB) and Civil Aviation Authority (CAA) requirements (see separate navigation and marking plan);
- Cables will be suitably buried as directed in the DECC (2011⁴) guidance or will be protected by other means when burial is not practicable, this will help to reduce the risk of snagging fishing gear; and
- Continued consultation and dissemination of information will be carried out to ensure information about the works are circulated through agreed procedures such as Notices to Mariners and Kingfisher to allow vessels to effectively and safely navigate around proposed sites.

6. Fisheries Management

6.1. Fisheries Liaison Officer

KOWL have appointed an independent consultancy, Avoca Consultants Limited, to undertake the FLO Role – in full accord with the FLO terms of reference, recommended in the FLOWW guidelines. KOWL have further committed to ensuring that the appointed FLO has the appropriate resources and Project support to successfully undertake the role.

In the event of any planned or otherwise disturbance to fisheries operations the FLO will be the first point of contact in amicably settling any interactions with stakeholders.

⁴ DECC, 2011. National Policy Statement for Renewable Energy Infrastructure (EN-3).

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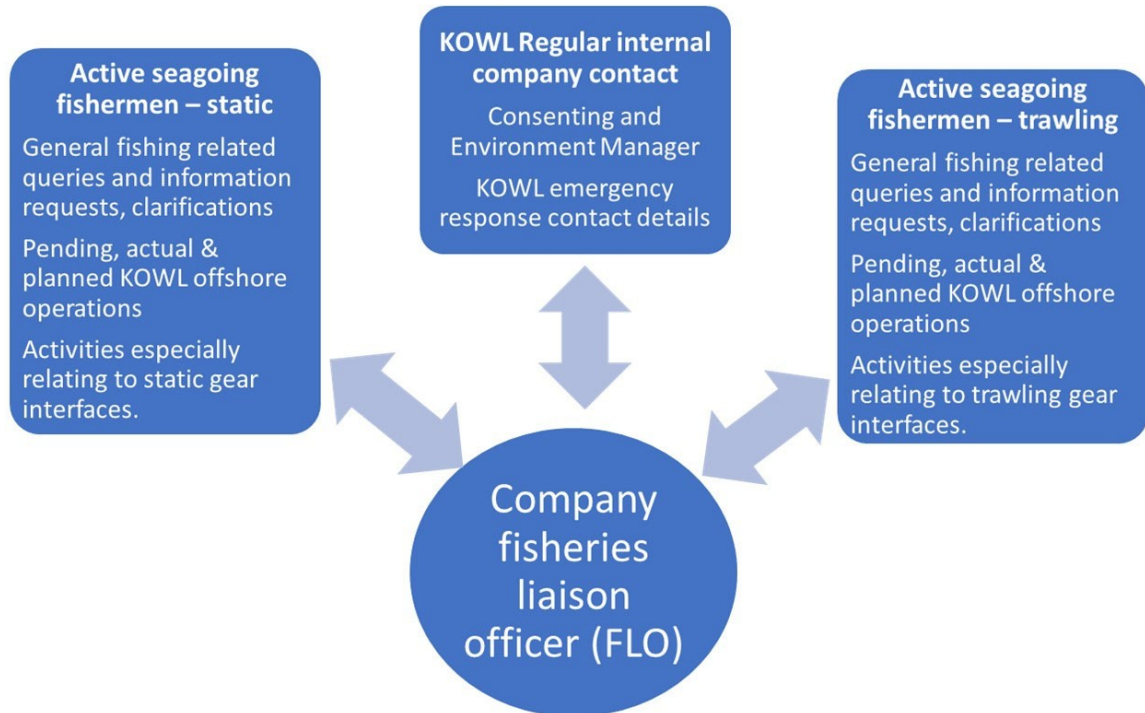


Figure 6-1 FLO communication pathways

KOWL, in consultation with Avoca shall delegate and apportion fisheries liaison duties, as appropriate:

- to ensure that fishing related matters are fully and transparently incorporated within KOWL's project risk assessment/risk management and emergency contact and response policies.
- to develop appropriate KOWL protocols and standards for understanding and assessing requirements for sourcing and engaging various appropriate and potential support services from the fishing industry, including FIRs, FLOs and guard, scout, and utility vessels etc.
- to develop and maintain a timely and practical information pathway for disseminating, in user friendly format and language, information to fishermen throughout the various stages of the Project lifecycle:
 - pre-survey;
 - surveying;
 - installation;
 - construction;
 - operational;
 - maintenance activities;
 - through the following mechanisms:
 - Notice to Mariners;
 - Notices;
 - Bulletins;
 - project fliers;
 - awareness briefing notes; and where appropriate;
 - media inserts and adverts;
 - Project website.

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- to develop a manageable and practicable programme for the dissemination of information.
- to ensure, to the best of KOWL's endeavours that all potential project related hazards, obstacles or gear fastening scenarios are properly identified, assessed, understood, marked and where practicable eliminated, removed or remediated, in line with industry good practice.

6.2. Notifications and Meetings

The FLO will take the lead in all communications with regards to Fisheries interests and facilitate and conduct various stakeholder meetings over the duration of the Project not limited to but including:

Meetings

FLO/Consenting & Environment will hold regular meetings as appropriate prior to the construction phase at local facilities in Aberdeen or at the KOWL Project Office, as appropriate. Stakeholders will be briefed on the Project programme; updated on any previous queries; and have a round table forum to discuss coordination of the Project and fisheries interests.

Notification to Mariners

Appropriate liaison and dissemination of information and warnings through Notices to Mariners and other appropriate media, (e.g. Admiralty Charts, fishermen's awareness charts and Pilot Books) will enable vessels to effect a safely passage plan around the Project (including inter-array cables) and export cables. It is noted that this will include international promulgation of information.

Appropriate notifications will be issued to ensure they are noted on the appropriate marine navigation safety systems (Notice to Mariners, Kingfisher etc.). Safety zones and any buoyed construction areas will also be in place to advise mariners of safe passing distances and current areas of activity; all of this information along with site updates and current operations will be promulgated through methods such as Kingfisher Bulletins and Local Notice to Mariners.

Extensive promulgation of information to the fishing community to ensure that the subsea hazards are clear; including liaison with the United Kingdom Hydrographic Office, Kingfisher and consideration for use of Fish Safe, KIS-CA systems etc.

6.3. Planning

Ahead of any works the FLO will provide guidance on the likely presence of static gear within the vicinity of construction operations and the potential for the works to interact with it. This will be facilitated through the FLO's ongoing proactive liaison with the identified fisheries interested both within the vicinity of the project and beyond. Should gear be present the FLO will then make any necessary recommendations. This will include, where practicable, micro-siting of equipment or plant or if this is impracticable for the gear to be:

- Removed; or
- Relocated, either on a permanent or temporary basis.

This approach will facilitate the smooth operation of the works and minimise any unnecessary disturbance to fisheries operations from KOWL's activities.

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The FLO will offer advice on the likely geographical footprint or limits of static gear that requires clearance, based on the type and timing of the KOWL operations and ongoing discussions with relevant stakeholders.

Should there be an opportunity for staged, or rolling closures to minimise potential disruption to stakeholders then these will be considered on their own merit.

6.4. Compensation Arrangements

KOWL undertakes to develop a protocol, in line with FLOWW guidelines, addressing a methodology for quantifying losses in respect of disruption and or disturbance relating to normal fishing activities, particularly in respect of static gear type fishing, from project operations. This protocol will change and adapt over the various phases of the Project as operations are quantified. Any arrangements will be recorded within this FMMS.

Under circumstances where it is necessary, through the FLO, either to temporarily remove or permanently relocate any static gear for the duration of an operation, KOWL will consider the settlement of appropriate and proportionate compensation payments. This will be undertaken, at all times, in line with and in accordance to standard industry practice, FLOWW guidelines and in full consideration of KOWL's overarching principles and policies regarding internal corporate good business practice and company ethics. Due reference will be given to appropriate transparency, fairness, mutual respect, mutual responsibilities and also mutual liabilities. KOWL anticipates full and equal reciprocity on the part of the Fishing Industry, and indeed the wider marine community, in respect of these guiding principles/philosophies.

Static Gear Operations

The FLO will be responsible for maintaining an up to date record of potential earnings of static gear operations in each class; with due consideration to the:

- local conditions;
- grounds productivity;
- prevailing weather
- seasonal activities; and
- demand and catch market factors.

Static gear operations can either land to the local open market, or often, possess binding contracts with shellfish buyers to supply a certain flow of product either set at a fixed or variable price.

Operations can fluctuate over the year with a seasonal spike in demand, for example in the annual run up to Christmas. This can result in high levels of offshore catching activity, throughput and high prices and earnings. A great deal of catch is landed and transported live to buyers and / or markets. A significant amount of static gear produce is targeted to supply export markets, especially in Europe and the middle east and far east markets. These export markets can command premium prices.

The FLO will take due cognisance of the actual and potential static gear earnings with respect to any requirement to temporarily remove or permanent relocate any static gear. Request should be made with a clear understanding of the overall amounts and types of gear within the target operational area, the ability to redeploy gear to other producing area or to recover and store ashore, vessel size, crew numbers and catching track record.

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The FLO will meet with the static gear fishermen to discuss any compensation payment or otherwise on a case by case basis.

Any agreement reached will be simple, clear and transparent, yet flexible enough to cater for contingencies such as:

- a requirement to adjust or extend geographical limits and boundaries of clearance purposes;
- extend the time of operations; or
- release or open an area to static gear activity ahead of schedule.

The FLO will facilitate any agreements with fishermen ahead of operations with the objective of reaching a framework of understanding that will facilitate the construction and operation of the windfarm and minimise the disturbance to ongoing fishing operations as and when they converge with the windfarm.

Should any unanticipated situations arise, resulting in static gear being accidentally damaged, or lost then the FLO will be immediately informed. The FLO will immediately contact the parties involved and ascertain the specifics of the situation and undertake to resolve it as expediently as practicable.

When addressing static gear matters, whether shifting gear or participating in operational interfaces, it is reaffirmed that KOWL recognises that fishermen must always adhere to the safety-first principle, and that assessments of sea risks, including weather sea conditions must be undertaken by the static gear fishermen in accordance with the strict limitations imposed by their vessels:

- capabilities;
- equipment;
- crew;
- training; and
- insurance conditions etc.

7. Conclusions and Further Work

This FMMS is a live document and will continue to be developed over the lifecycle of this project as a live document. Further recommendations and amendments will be recorded and the documents will be adapted to reflect both changing circumstances of fisheries interests and of the Project.

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APPENDIX A DESCRIPTION OF FISHERIES TYPES

Nearshore Fisheries

Static Gear





It is recognised that KOWL Activities at nearshore locations shall inevitably encounter a type of fishery generically called Static Gear Fisheries (SGF).

SGF most likely to be encountered during construction, operations and decommissioning works is Creel Fishing. This usually comprises the deployment of Fleets of Pots (Colloquially known as Creels in Scotland), which target the trapping of shellfish.

Creel	Fleets of Pots
	
Whelk Pot	Fleet of Whelk Pots
	

Shellfish is the collective name for species such as lobster, crab, and *Nephrops norvegicus*, known variously as the Norway lobster, Dublin Bay prawn, langoustine or scampi (known as prawns in Scotland). In addition, fleets of pots, known as whelk pots, are also deployed to target molluscs known as whelks and buckies.

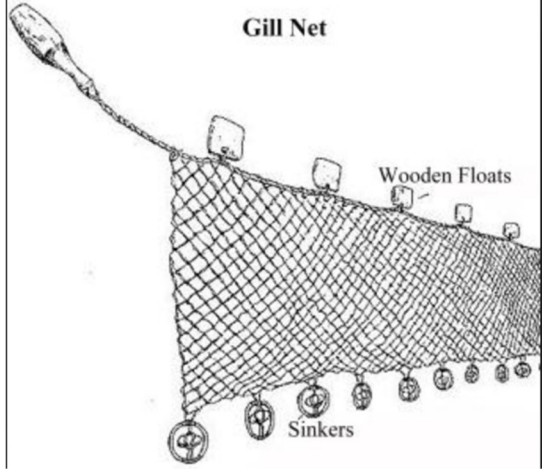
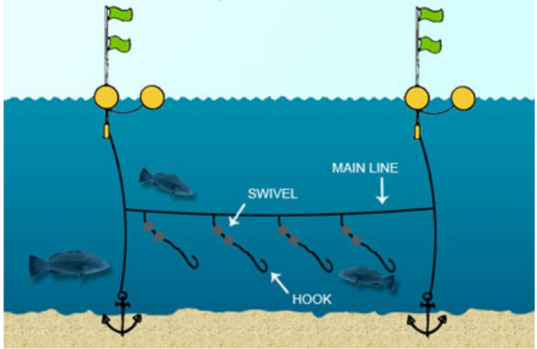
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Whelks 	Prawns 
Common Lobster 	Brown Crab 

Line Fishing (baits)

Other types of Static Gear Fisheries involving the deployment of Static Lines of Nets, known as Gill Netting, or Static Lines of Baited Hooks, known as Long-lining may be encountered.

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Gill Net	Long-lining
	

All these types of operations involve the gear being set, left unattended, being marked by various types of buoys or markers, with the fisherman returning at regular or irregular intervals to attend to the gear.

Creels and Pots

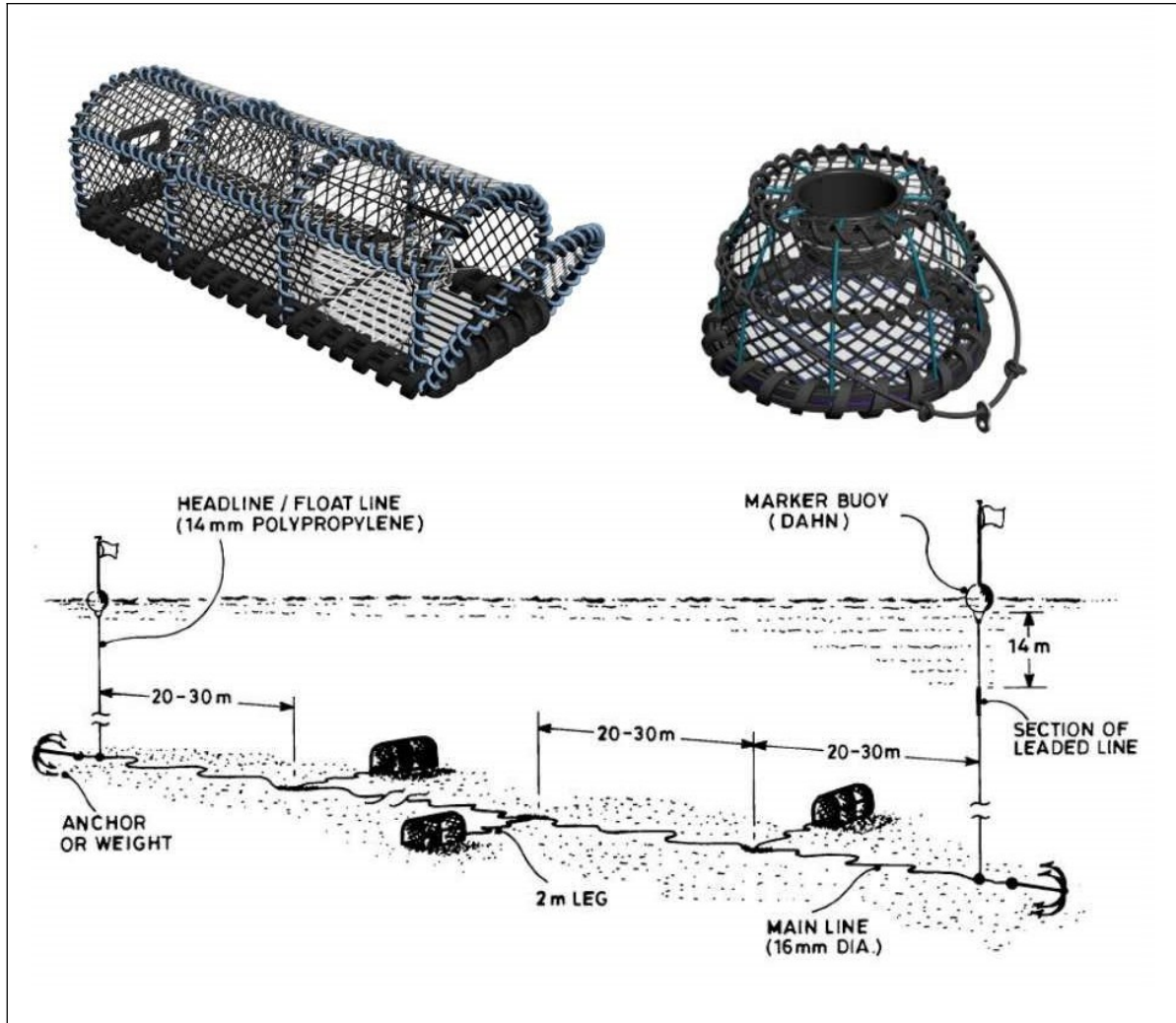
Creeling is the most likely type of static gear fishery to be encountered around Scotland's coast. However, such operations tend to involve significantly larger vessels than other types of static gear fishing.

Creeling is a territorial restricted fishery usually focussed on the adjacent mainland coastal strip, around islands, rocky features and tends to target hard bottom.

Placement of Gear

Static gear can be both intensive and extensive in operation. Gear is usually laid out in fixed patterns, often in lines, or strings of pots. The pots are laid on the seabed under their own weight, often attached to a light anchor. Ropes are attached sequentially to each pot, with a leader rope attaching to a surface marker/recovery buoy. buoys, depending on tidal and weather conditions can often be sub surface (under the waterline) and not readily visible to other sea users.

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Pots can also be deployed on a Single Basis, usually very nearshore, immediately adjacent to Rocks and Gullies.

Typically, static gear is placed in as follows:

- Individual Fishermen generally set their gear, usually adjacent to other fishermen. However, gear can be intermingled between and amongst different fishermen's gear depending upon the location and any agreements in place.
- Gear may be deployed and logged by fishermen utilising GPS, or often, simply by placing them in known locations.
- Static Gear Fisherman are very territorial, with gear being set according to historical precedence.
- Gear can be set, adjusted and shifted in accordance with seasonal patterns and cycles.
- Developments in gear design and vessel capabilities mean that new areas are often and regularly being opened, often further offshore. There is currently no mechanism in place for formally awarding fishing rights for this type of scenario.

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- Static gear fishermen can either work either cooperatively or as individuals.

Working environment

Static gear operations are dangerous, usually involving small single manned vessels, which often operate in high risk area, close to cliffs and rocks. These operations are particularly weather, tide and sea conditions sensitive. The effort involved in undertaking such operations, exposes fishermen to fatigue and tiredness these are dictated by natural cycles and are not temporal in nature.

Static gear fishermen are restricted in areas away from harbour limits, marked navigation passages/routes, dumping zones etc. They also avoid areas subject to mobile trawling and fishing activities, especially dredging vessels, usually targeting scallops/ clams and razors, which are also nearshore fisheries.

There are often local Agreements and Codes of Practices in place between Static and Mobile Gear Fishermen aimed at Maximising Cooperation and Minimising Conflict.

Scottish Fishing Federation

Scottish Fishermen's Federation (SFF) plays an active role in advancing the interests of Scottish fishermen at national and international levels by lobbying government officials in Edinburgh, London and Brussels. The Federation also plays a key role in helping to inform: fisheries science; the management of the marine environment; inshore fisheries management; marine spatial planning; marine safety regulations and industry recruitment and training programmes.

The SFF umbrella covers eight geographical/sectoral constituent associations representing more than 500 vessels from inshore creel boats to pelagic trawlers, the membership of its constituent associations are formed from: -

- the Anglo Scottish Fishermen's Association;
- the Fife Fishermen's Association;
- the Fishing Vessel Agents and Owners Association (Scotland) Ltd;
- the Mallaig and North-West Fishermen's Association;
- the Orkney Fisheries Association,
- the Scottish Pelagic Fishermen's Association Ltd,
- the Scottish White Fish Producers Association Ltd; and
- the Shetland Fishermen's Association.

As the majority of our members are family run businesses.

Licensing

Static Gear Fishermen that operate in order to sell for profit must be Licensed and can operate on a Full time, or Part time basis. Hobby fishermen do not require a Fishing Licence, and there is a restriction on what they can catch and they cannot sell for profit.

In Scotland, the Government Body tasked with issuing and managing fishing licences is Marine Scotland.

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Static Gear Fishermen do not own the Seabed and have no seabed property rights. They operate in their areas in accordance with custom and practices, historical patterns and traditions.

Fishermen operating under a license have a historical right to fish unimpeded, in accordance with their licence conditions. Similarly, offshore renewables operators have a right to carry out their operations uninterrupted, also in accordance with their licence conditions. Therefore, it is essential that a mutually beneficial operating mechanism exists between both parties to facilitate a smooth transition amid ongoing operations.

The Marine Scotland issues licences to diverse marine industries, each with the potential to operate in overlapping areas of activity. this poses the opportunity for conflict. it also offers the opportunity for cooperation and the possibility of diverse industries engaging and working together. The Government and its relevant Departments encourage, and indeed, where relevant facilitate the latter. Offshore Renewables Operators are therefore directed, encouraged and expected to engage positively with Fishermen, particularly Static Gear Fishermen with the purpose of establishing Mutual Understanding, Awareness and Cooperation.

Offshore Renewables Interface with Static Fishing Gear and Static Gear Operators is particularly Sensitive to the impact/vulnerability of the each to the other Operations and the potential for damage/delay/interference, with associated cost implications.

Offshore Fisheries

Demersal

The demersal trawl fishery is one of the most important fisheries in the North Sea, primarily targeting cod, haddock and whiting. However, demersal trawling within the Local Study Area mainly target squid (*Loligo forbesi*) and *Nephrops norvegicus*. Demersal species live on or near the seabed and feed on benthic organisms and other fish. Demersal species contributed 32% of the overall landings values by Scottish vessels in 2013 with landings made up from haddock, (34%), cod (11%), saithe (11%), whiting (10%) and monkfish (7%) (The Scottish Government, 2013a). The main demersal fleet in Scotland is based in the north east (Peterhead and Fraserburgh) and Shetland. Gear used to target demersal fisheries include towed trawls and Scottish seine nets. Demersal otter trawling is currently the most common commercial fishing method within Scottish waters (Figure 1 below).

The catching principle of otter trawls is different from that of beam trawls and scallop dredges (Figure 4). Demersal otter trawls are designed to catch fish and shrimps that stay above the sea bed, from close to the bottom to several metres from the bottom. Beam trawls and scallop dredges, on the other hand, are used to target species that stay on the bottom or that are partly buried in the sediment. Accordingly, the tickler chains of a beam trawl and the teeth of a dredge are specifically designed to disturb the sea bed surface and penetrate the upper few centimetres of the sediment. Chains and teeth, respectively, are mounted along the whole width of the two gears (beam trawl: 4 to 12 m, scallop dredge: 0.75 to 3 m)⁵.

⁵ <http://www.fao.org/docrep/008/y7135e/y7135e06.htm>

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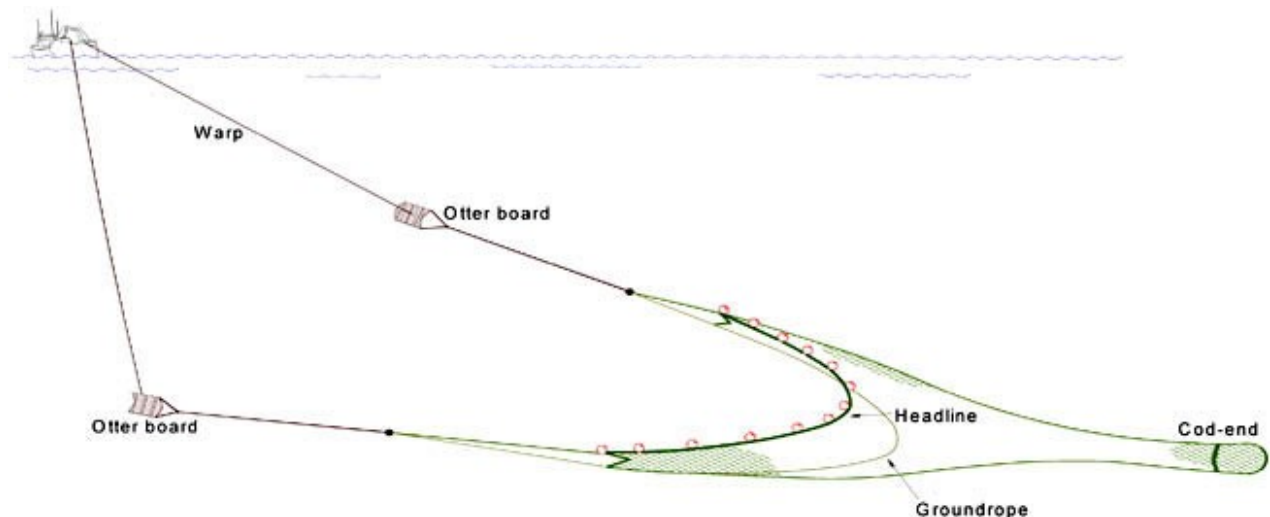


Figure 1: Otter Trawl

Pelagic

The Scottish pelagic fleet predominately targets herring and mackerel and is based mainly in Fraserburgh and Shetland consisting of approximately 27 vessels (DECC, 2004). The pelagic fishery in the Local Study Area primarily exploits mackerel using pelagic trawls. Typically, these stocks are highly mobile and migratory, for example mackerel are known to move from the west of Ireland in the summer months to the North Sea in the winter. Trawling gear mainly consist of single or pair trawlers with pelagic trawl nets. Nets are generally towed until the sensors on the nets indicate a good catch has been made.

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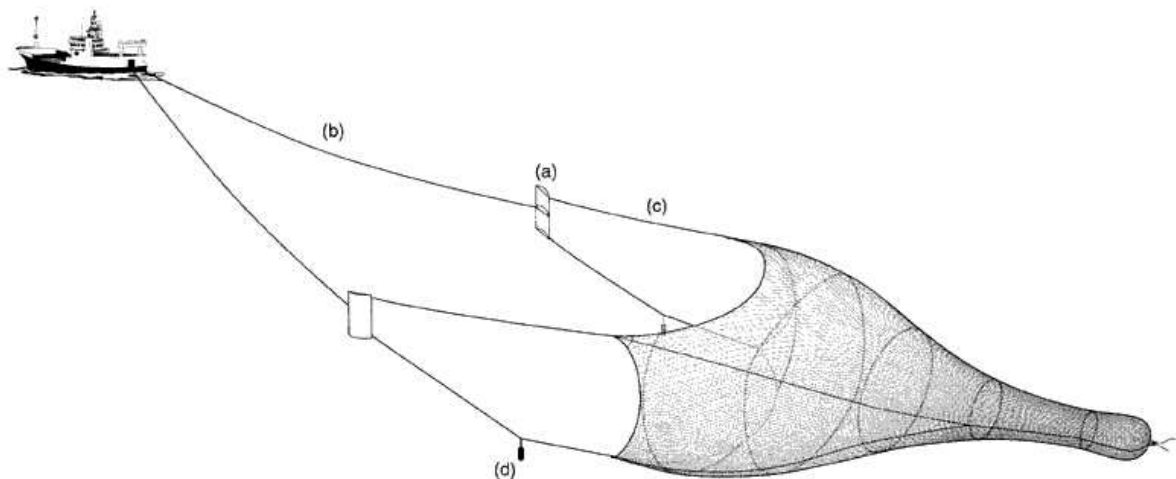


Figure 2: Pelagic Fishing Trawler Net⁶

Dredge Fishing

The main shellfish landed by Scottish dredging vessels throughout Scotland and within the Local Study Area (Original ES Section 3.9) is king scallop (*Pecten maximus*). King scallop is the most important exploited mollusc and second most valuable shellfish species landed in Scotland. Landings have increased since the 1970s and it is now classed as one of the top 5 most valuable species in the UK. The mostly common method to exploit the species in Scottish waters is by mechanical dredging with the main fisheries off the east coast of Scotland, Orkney and Shetland Isles. The main fishing gear used for the capture of scallops is by towing spring-loaded “Newhaven” scallop dredges. Each dredge is designed to ‘rake’ the seafloor to lift the scallops from their recessed position. A steel and nylon mesh bag is placed behind the tooth bar to retain the catch (Beaukers-Stewart & Beaukers-Stewart, 2009). Generally, vessels undertaking scallop dredging are usually <15m in length and exploit inshore waters around the UK, there is a small number of over 20m vessels which target both inshore and offshore waters.

⁶ <http://www.scotland.gov.uk/library3/fisheries/figoo-04.asp>

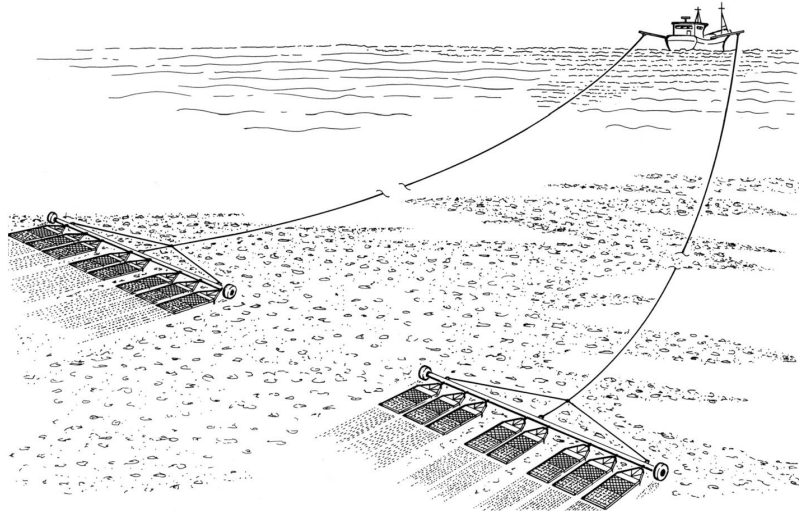
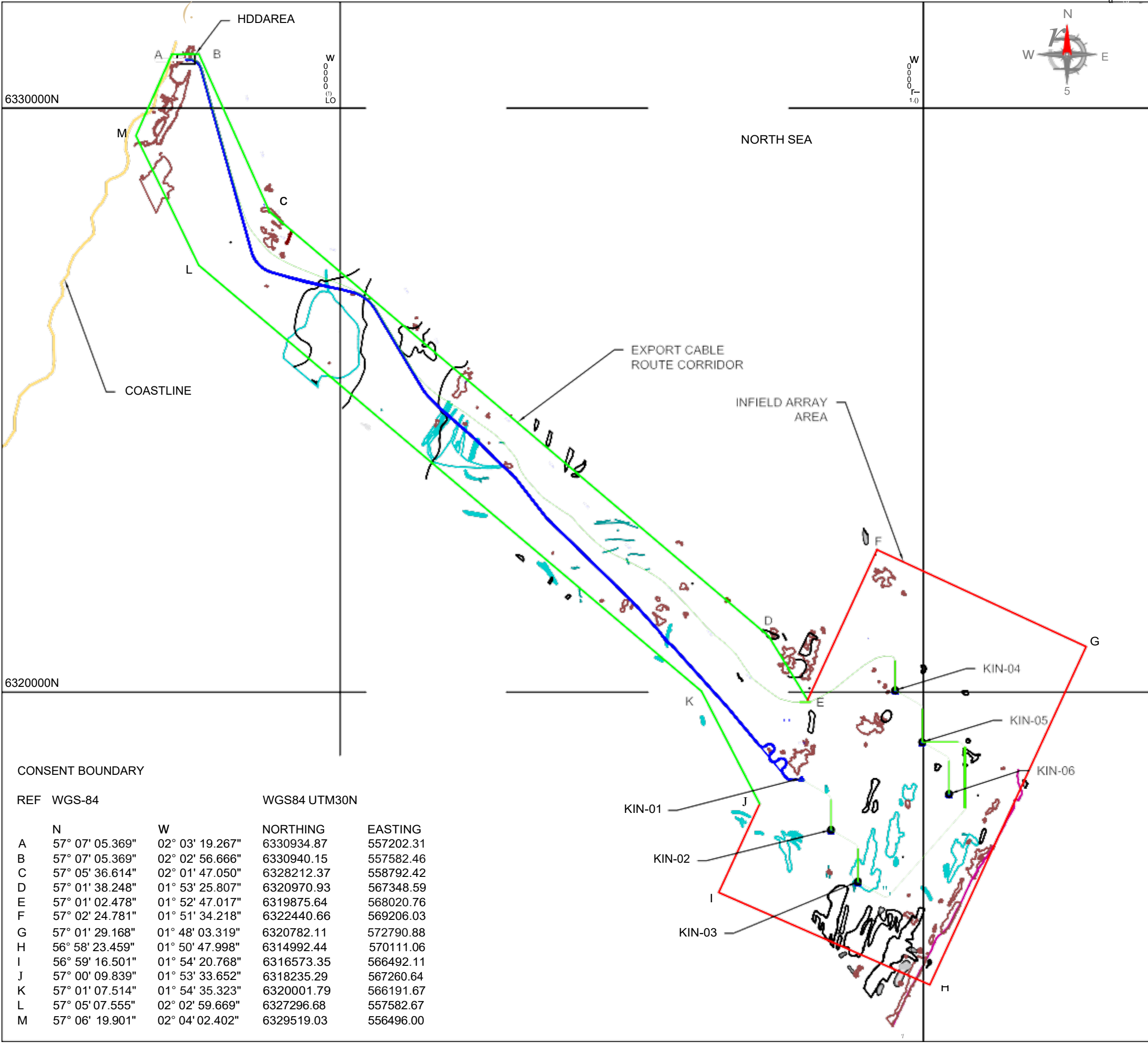


Figure 3: Newhaven Scallop Dredge

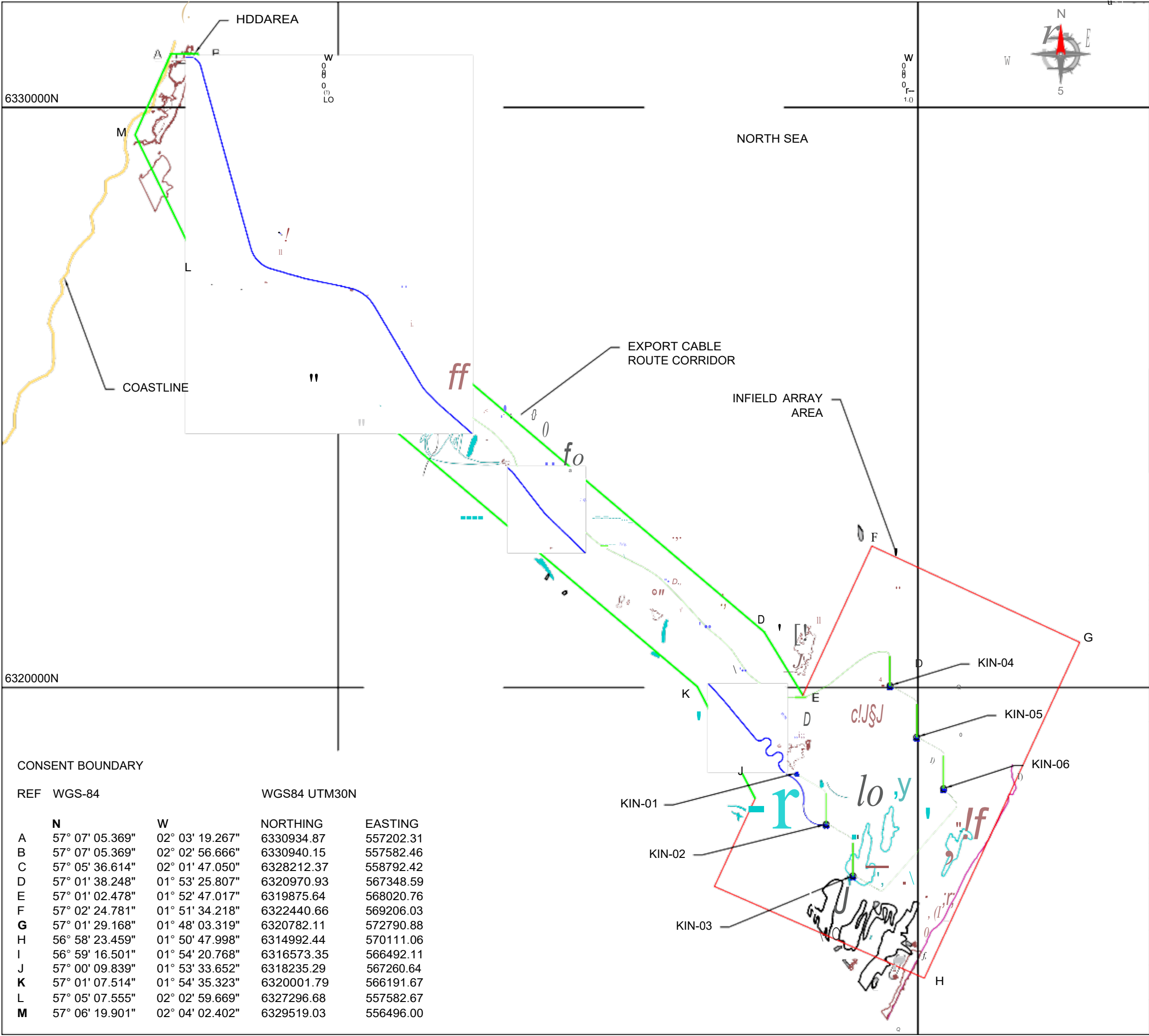
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APPENDIX B
 KOWL-DR-0001-015 – Field Layout Consent and WTG Position Check



LEGEND		
PLANNED TURBINE LOCATIONS		
REF	WGS-84	
	N	W
KIN-01*	57° 00' 19.095"	01° 52' 52.181"
KIN-02	56° 59' 50.109"	01° 52' 25.710"
KIN-03	56° 59' 21.214"	01° 51' 59.269"
KIN-04	57° 01' 06.828"	01° 51' 18.166"
KIN-05	57° 00' 37.897"	01° 50' 51.666"
KIN-06*	57° 00' 08.931"	01° 50' 25.179"
* CURRENT 2MW TURBINE AT KIN-01 LOCATION WILL BE REMOVED AND REDEPLOYED AT KIN-06 LOCATION		
REF	WGS84 UTM30N	
	NORTHINGS	EASTINGS
KIN-01	6318532.87	567955.65
KIN-02	6317645.51	568416.70
KIN-03	6316758.16	568878.75
KIN-04	6320034.94	569517.86
KIN-05	6319147.58	569978.91
KIN-06	6318260.23	570440.96
-	EXISTING EXPORT CABLE ROUTE	
-	PROPOSED 2ND EXPORT CABLE ROUTE	

AS	ISSUED FOR COMMENT	JO	AW	AW	08/10/2019
A4	ISSUED FOR COMMENT	JO	JG	AW	03/04/2019
A3	ISSUED FOR COMMENT	JO	JG	AW	01/04/2019
A2	ISSUED FOR COMMENT	JO	JG	AW	29/01/2019
A1	ISSUED FOR COMMENT	JO	JG	AW	28/01/2019
REV	DESCRIPTION	DRN	CKD	APP	DATE
<div><div><div>KOWL</div></div><div>CLIENT</div><div>KINCARDINE OFFSHORE WINDFARM LTD</div><div>PROJECT</div><div>KINCARDEN OFFSHORE WINDFARM</div><div>TITLE</div><div>FIELD LAYOUT CONSENT AND WTG POSITION CHECK LAYOUT 1</div><div>CLIENT DRAWING NUMBER</div><div>N/A</div><div>SHEET</div><div>1 OF 2</div><div>SHEET SIZE</div><div>A3</div><div>SCALE U.N.O. / W3G DRAWING NUMBER</div><div>1:60</div><div>KOWL-DR-0001-015</div><div>REV</div><div>A5</div><div>THIS DRAWING IS THE PROPERTY OF W3G MARINE LTD AND SHALL NEITHER BE COPIED NOR PRESENTED TO NON AUTHORIZED PERSONS WITHOUT THE WRITTEN CONCENT OF W3G MARINE LTD</div></div>					



LEGEND

PLANNED TURBINE LOCATIONS

REF	WGS-84	
	N	W
KIN-01*	57° 00' 19.095"	01° 52' 52.181"
KIN-02	56° 59' 50.109"	01° 52' 25.710"
KIN-03	56° 59' 21.214"	01° 51' 59.269"
KIN-04	57° 01' 06.828"	01° 51' 18.166"
KIN-05	57° 00' 37.897"	01° 50' 51.666"
KIN-06	57° 00' 08.931"	01° 50' 25.179"

* CURRENT 2MW TURBINE AT KIN-01 LOCATION AND WILL REMAIN AT THAT LOCATION

REF	WGS84 UTM30N	
	NORTHINGS	EASTINGS
KIN-01	6318532.87	567955.65
KIN-02	6317645.51	568416.70
KIN-03	6316758.16	568878.75
KIN-04	6320034.94	569517.86
KIN-05	6319147.58	569978.91
KIN-06	6318260.23	570440.96

-

 EXISTING EXPORT CABLE ROUTE

-

 PROPOSED 2ND EXPORT CABLE ROUTE

AS	ISSUED FOR COMMENT	JO	AW	AW	08/10/2019
A4	ISSUED FOR COMMENT	JO	JG	AW	03/04/2019
A3	ISSUED FOR COMMENT	JO	JG	AW	01/04/2019
A2	ISSUED FOR COMMENT	JO	JG	AW	29/01/2019
A1	ISSUED FOR COMMENT	JO	JG	AW	28/01/2019
REV	DESCRIPTION	DRN	CKD	APP	DATE

KOWL

CLIENT

KINCARDINE OFFSHORE WINDFARM LTD

PROJECT

KINCARDEN OFFSHORE WINDFARM

TITLE

FIELD LAYOUT CONSENT AND
WTG POSITION CHECK
LAYOUT 2

CLIENT DRAWING NUMBER	SHEET	SHEET SIZE
N/A	2 OF 2	A3
SCALE U.N.O. 1W3G DRAWING NUMBER	REV	
1:60 KOWL-DR-0001-015	AS	

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