



ESTABLISHED 1968

The Finest Salmon from
SCOTLAND



Scoping Report Fish Farm Development

Morrison's Rock, Isle of Benbecula

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Environmental Impact Assessment – Technical Appendices

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Appendix C: Escapes Contingency Plan;

Appendix D: Predator Control Plan;

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Appendix F: Shadow Habitats Regulations Appraisal Screening Report;

Appendix G: Equilibrium Concentration Enhancement Calculations; and

Appendix H: Environmental Management Plan.

Glossary of Abbreviations and Terms

Abbreviation / Term	Definition
1SW	One Sea Winter
3D	Three Dimensional
AA	Appropriate Assessment
ADD	Acoustic Deterrent Device
AIS	Automatic Identification System
BCC5	Birds of Conservation Concern 5
BFS	Bakkafrost Scotland Ltd.
CalMac	Caledonian MacBrayne
CAPEX	Capital Expenditure
CAR	Controlled Activities Regulations (The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended))
CES	Crown Estate Scotland
CIEEM	Chartered Institute of Ecology and Environmental Management
CIFA	Communities Inshore Fisheries Alliance
CnES	Comhairle nan Eilean Siar
CoGP	Code of Good Practice for Scottish Finfish Aquaculture
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
CoPA 1974	Control of Pollution Act 1974
DBA	Desk-Based Assessment
dECP	Draft Escapes Contingency Plan
dFMS	Draft Farm Management Statement
DfT	Department for Transport
DIN	Dissolved Inorganic Nitrogen
DMA	Disease Management Area
DNA	Deoxyribonucleic Acid
dPCP	Draft Predator Control Plan
DREaM	Decommissioning Redundant Equipment and Materials
DSA	Detailed Study Area
dVMP	Draft Vessel Management Plan
ECE	Equilibrium Concentration Enhancement

Abbreviation / Term	Definition
EclA	Ecological Impact Assessment
eDNA	Environmental Deoxyribonucleic Acid
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EmBz	Enamectin Benzoate
EMP	Environmental Management Plan
EMS	Environmental Management System
EPS	European Protected Species
EQS	Environmental Quality Standard
EU	European Union
FAME	Future of the Atlantic Marine Environment
FAO	Food and Agriculture Organisation
FCR	Feed Conversion Ratio
FeAST	Feature Activity Sensitivity Tool
FMA	Farm Management Area
FSS	Food Standards Scotland
FWPM	Freshwater Pearl Mussel
GeMS	Geodatabase of Marine features adjacent to Scotland
GHG	Greenhouse Gas
GLVIA3	Guidelines for Landscape and Visual Impact Assessment (3rd Edition)
GVA	Gross Value Added
HAB	Harmful Algal Bloom
HDPE	High Density Polyethylene
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HM	His Majesty
HOS	Haul Out Site
Hs	Significant Wave Height
HWDT	Hebridean Whale and Dolphin Trust
ICES	International Council for the Exploration of the Sea
IEF	Important Ecological Feature
IMO	International Maritime Organisation

Abbreviation / Term	Definition
ISA	Infectious Salmon Anaemia
ISLM	Integrated Sea Lice Management
JNCC	Joint Nature Conservation Committee
km	Kilometre
kVA	Kilovolt Amps
LBM	Live Bivalve Mollusc
LCT	Landscape Character Type
LDP	Local Development Plan
LGV	Light Goods Vehicle
LOA	Lease Option Agreement
LPA	Local Planning Authority
LSE	Likely Significant Effect
m	Metre
m ²	Metre Squared
MarESA	Marine Evidence-based Sensitivity Assessment
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate Licensing Operations Team
MEAC	Marine Emergency Action Card
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MNWFA	Mallaig and North-West Fishermen's Association
MOD	Ministry of Defence
MPA	Marine Protected Area
MSW	Multi Sea Winter
NBN	National Biodiversity Network
NCMPA	Nature Conservation Marine Protected Area
NDM	NewDEPOMOD
NEPS	National Electrofishing Programme for Scotland
NLB	Northern Lighthouse Board
NMP	National Marine Plan
NMPi	National Marine Plan interactive
NPF4	National Planning Framework 4

Abbreviation / Term	Definition
NRS	National Records of Scotland
NS	NatureScot
NS9415:2021	Norwegian Technical Standard: Floating Aquaculture Farms
NSR	Noise Sensitive Receptor
NtMs	Notice to Mariners
NTS	Non-Technical Summary
o	Degree
OEL	Ocean Ecology Ltd.
OH	Outer Hebrides
OHRIFG	Outer Hebrides Regional Inshore Fisheries Group
OPEX	Operational Expenditure
OS	Ordnance Survey
PAN	Planning Advice Note
PIC	Property in Care
PMF	Priority Marine Feature
PPM	Planned Preventative Maintenance
Q	Quarter
R&D	Research and Development
RCP	Representative Concentration Pathway
RIAA	Report to Inform Appropriate Assessment
ROV	Remotely Operated Vehicle
SAC	Special Conservation Area
SAM	Scheduled Ancient Monument
SBL	Scottish Biodiversity List
SBTi	Science Based Targets initiative
SCA	Seascape Character Area
SCDA	Scottish Creelers and Divers Association
SCFF	Scottish Creel Fishermen's Federation
SCOS	Special Committee on Seals
SCR	Seabird Colony Register
SCT	Seascape Character Type
SEPA	Scottish Environment Protection Agency

Abbreviation / Term	Definition
SFF	Scottish Fishermen's Federation
SG	Scottish Government
SGMD	Scottish Government's Marine Directorate
SLMS	Sea Lice Management Strategy
SLRF	Sea Lice Regulatory Framework
SMP	Seabird Monitoring Programme
SMWWC	Scottish Marine Wildlife Watching Code
SPA	Special Protection Area
SPFA	Scottish Pelagic Fishermen's Association
SSSI	Site of Special Scientific Interest
SST	Sea Surface Temperature
STAR	Seabird Tracking and Research
STS	Scottish Government Marine Directorate: A Technical Standard for Scottish Finfish Aquaculture
SWFPA	Scottish White Fish Producers Association
T	Tonne
The Application	The Planning Application for the Morrison's Rock Fish Farm
The Development Area	The Red Line Boundary of the Proposed Development under The Town and Country Planning (Scotland) Act 1997
The EIA Regulations	The Town and Country Planning (Environment Impact Assessment) (Scotland) Regulations 2017
The Habitats Directive	Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora
The Habitats Regulations	Conservation (Natural Habitats, &C.) Regulations 1994
The Proposed Development	The Proposed Morrison's Rock Fish Farm
The Report	The Scoping Report for the Proposed Morrison's Rock Fish Farm
The Shellfish Waters Directive	Council Directive 2006/113/EC on the Quality Required of Shellfish Waters
The Wild Birds Directive	Council Directive 2009/147/EC on the Conservation of Wild Birds
UD	Utilisation Distribution
UKCP18	United Kingdom Climate Projections 2018
UKHO	United Kingdom Hydrographic Office
UKTAG	United Kingdom Technical Advisory Group
UPRN	Unique Property Reference Number

Abbreviation / Term	Definition
VHWP	Veterinary Health and Welfare Plan
VTR	Vessel Transit Route
WCA	The Wildlife and Countryside Act 1981
WFD	Water Framework Directive (Council Directive 2000/60/EC Establishing a Framework for Community Action in the Field of Water Policy)
WIFA	Western Isles Fishermen's Association
WMP	Waste Management Plan
WMS	Web Map Service
WSA	Wider Study Area
WSPZ	Wild Salmon Protection Zone
Zol	Zone of Influence
ZTV	Zone of Theoretical Visibility

1 Introduction

This Scoping Report (the Report) has been prepared by Bakkafrost Scotland Ltd. (BFS). BFS is proposing to submit a planning application (the Application) to Comhairle nan Eilean Siar (CnES), under The Town and Country Planning (Scotland) Act 1997¹ (as amended), for planning permission to install and operate a new marine open pen fish farm, to be known as Morrison's Rock (the Proposed Development).

The Proposed Development will involve the construction and operation of a marine open pen fish farm at a location approximately 1.6 km off the northeast coast of the Isle of Benbecula, within the coastal waters of the Minch.

The Report is intended to provide CnES with the required level of information to allow, following consultation with key consultees, the issue of a Scoping Opinion, which outlines the scope of the Environmental Impact Assessment (EIA) for the Proposed Development. Greater detail on the Screening and Scoping process of EIA is provided in **Sub-Section 1.3**.

1.1 Project Development History

BFS previously requested a Screening and Scoping Opinion from CnES in June 2022 for a proposal to install and operate a fish farm consisting of six circular pens of 160 m circumference, along with the associated supporting infrastructure (22/00282). This proposal had a maximum biomass of 3,080 tonnes (T) and was located approximately 1.20 km off the northeast coast of the Isle of Benbecula. However, extensive pre-application engagement with local stakeholders identified opportunities to modify the proposal in order to avoid / reduce interactions with local stakeholders, including other marine users and local residents.

As such, BFS made the decision to not progress this original proposal to a planning application. However, the Uist and Benbecula region continues to support BFS's aspirations to build production in environmentally sustainable locations. Therefore, BFS has revised the proposal to account for the views of local stakeholders, where possible, in order to enhance co-existence within the region, and to reflect current company policy, which proactively seeks to develop new marine open pen fish farms within deeper, more energetic marine environments. These preferred environmental criteria, together with a trend towards developments containing fewer, larger pens (than historic farms), support fish health and welfare and, in doing so, ensure economically competitive operations.

As such, the Proposed Development, as presented within this Report, is located approximately 420 m to the southeast of this previous project. This relocation has also moved the Proposed Development from an area of relatively shallow and complex bathymetry to an area of deeper, more uniform bathymetry. **Figure 1.1** provides an illustration of the location of the Proposed Development in comparison to the original proposal².

BFS has used the 2022 Screening and Scoping Opinion to inform the proposal outlined in this Report.

¹ Scottish Government: The Town and Country Planning (Scotland) Act 1997 (as amended) [Online] Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents>

² It should be noted that the Proposed Development Area, as presented in **Figure 1.1** represents the worst-case scenario. During the mooring system design stage every effort will be made to reduce the spatial extent. Therefore the final design of the Proposed Development is likely to have a reduced footprint.

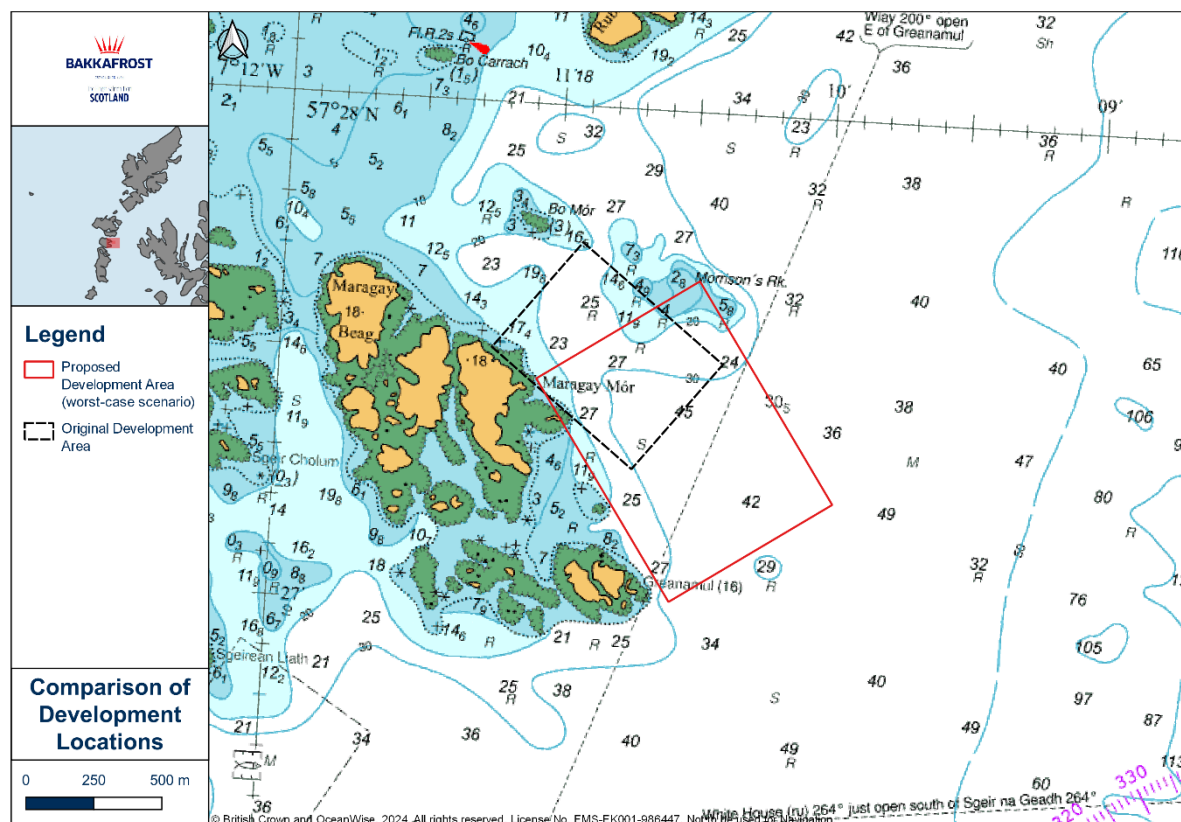


Figure 1.1: Comparison of location between the Proposed Development and the original proposal.

1.2 Project Overview

The Proposed Development will be comprised of eight 160 m circumference circular pens, held within a single group, arranged in two lines of four (2 x 4) and moored within a 100 m x 100 m grid. A feed barge is proposed to be permanently moored at the northern end of the grid. Under the Town and Country Planning (Scotland) Act 1997 all equipment will be installed and maintained within the red line boundary (the Development Area) which covers an area of 0.67 km². However, as the design of the Proposed Development progresses there may be scope to further reduce the spatial extent of the Development Area. If this is possible, it will be clearly identified with the EIA Report (EIAR). The centre point of the Proposed Development (Development Area) is 89755'E, 852445'N.

Detailed NewDEPOMOD (NDM) modelling, in order to ensure compliance with the Scottish Environment Protection Agency's (SEPA) latest regulatory framework³, has been undertaken for the Proposed Development. The outputs of this NDM modelling indicate that a maximum biomass of 5,050 T passes SEPA regulatory criteria (**Appendix B**).

Across the Development Area the mean water depth is 25.27 m, with water depth ranging from 4.00 m to 45.00 m. However, these data are skewed by the presence of shallow and complex bathymetry in the far northern section of the Development Area. In comparison, the average water depth beneath the pen grid is 45.00 m. These depths make the Development Area, particularly the pen grid area, well suited for marine open pen fish farming.

³ SEPA. Protection of the Marine Environment. Discharges from Marine Pen Fish Farms. A strengthened Regulatory Framework. [Online] Available at: https://www.sepa.org.uk/media/433439/finfish-aquaculture-annex-2019_31052019.pdf

As part of the development proposal for the Proposed Development, BFS will commit to relinquishing all consents for the existing Outer Eport fish farm (FS1254), located within Loch Eport. This commitment will ensure that the installation and subsequent long-term operation of the Proposed Development will be in full accordance with Policy 6 of the National Marine Plan (NMP)⁴. This commitment is conditional on the Proposed Development being granted planning permission and all other required consents.

Further detail on this commitment is provided in **Sub-Section 1.2.1**.

No terrestrial development is proposed as part of this project. The Proposed Development will make use of existing aquaculture infrastructure within the area and will be serviced from the existing BFS Kallin shorebase located 3.39 km (straight-line distance) to the northwest (31°W) of the Proposed Development, within the commercial harbour of Kallin.

Given the iterative nature of the EIA process, the layout and design of the Proposed Development is still being refined, this will continue throughout the EIA process, to ensure that the final layout and design represent a best fit with the receiving environment. In light of this ongoing process, the Proposed Development is being scoped on a preliminary basis, which represents the maximum design parameters in terms of project layout and design. Feedback received through the scoping process will be fed into the iterative design process.

Supporting figures are provided in **Appendix A**.

1.2.1 Disease Management Areas

Disease Management Areas (DMAs) were established within the Final Report⁵, produced by the Joint Government / Industry Working Group on Infectious Salmon Anaemia (ISA) in January 2000. These DMAs were based on separation distances around active fish farms, considering tidal excursions and other epidemiological risk factors. The standardised separation distance employed when determining potential disease connectivity between active farms is 7.258 km. Fish farms that have overlapping separation distances are typically incorporated within the same DMA. The establishment of discrete DMAs allowed salmonid production within Scotland to be compartmentalised into regions and smaller sub-regions.

In order to maintain these discrete DMAs, new fish farm development that would result in the bridging of DMAs is not supported within the NMP⁴. Aquaculture Policy 6 states:

“New aquaculture sites should not bridge Disease Management Areas although boundaries may be revised by Marine Scotland (now the Marine Directorate) to take account of any changes in fish farm location, subject to the continued management of risk.”

1.2.1.1 Current Scenario

The east coast of the Isles of North Uist and Benbecula is currently covered by two existing DMAs. DMA 5c encapsulates the Sound of Harris and the majority of the east coast of the Isle of North Uist. Immediately to the south is DMA 7a, which encapsulates the Isles of Grimsay and Ronay off North Uist, the whole of the east coast of the Isle of Benbecula and the northeast coast of the Isle of South Uist. At present, based on historic fish farm activity within the region, the two DMAs have an adjoining boundary, which has been determined to be acceptable by the Scottish Government's Marine Directorate (SGMD)

⁴ Scottish Government: National Marine Plan. A single Framework for Managing our Seas. 2015. [Online] Available at: <https://www.gov.scot/publications/scotlands-national-marine-plan/>

⁵ Joint Government / Industry Working Group on Infectious Salmon Anaemia (ISA) in Scotland. Final Report. January 2000. [Online] Available at: <https://www.webarchive.org.uk/wayback/archive/20180514134843/http://www.gov.scot/Topics/marine/Fish-Shellfish/FHI/managementagreement>

through the use of an at-sea distance measure between active farms, rather than the 7.258 km circular buffer around farms. This boundary is at the north end of the Isle of Ronay, as can be seen in **Figure 1.2**. This boundary is currently created by the at-sea separation distance (7.258 km) applied to the active farm, Outer Eport (DMA 5c). Due to the lack of physical separation between DMA 5c and 7a, there is the theoretical potential for increased risk of disease spread between these two DMAs based on the rationale for DMA formation⁵.

In this current scenario, the Proposed Development would result in the overlap of DMAs 7a and 5c. This was also the case for the previous proposal (22/00282), which resulted in SGMD advising in their Scoping Advice for the previous proposal that they would be opposed to this scenario. It is therefore considered likely that the overlap associated with the Proposed Development would not be acceptable.

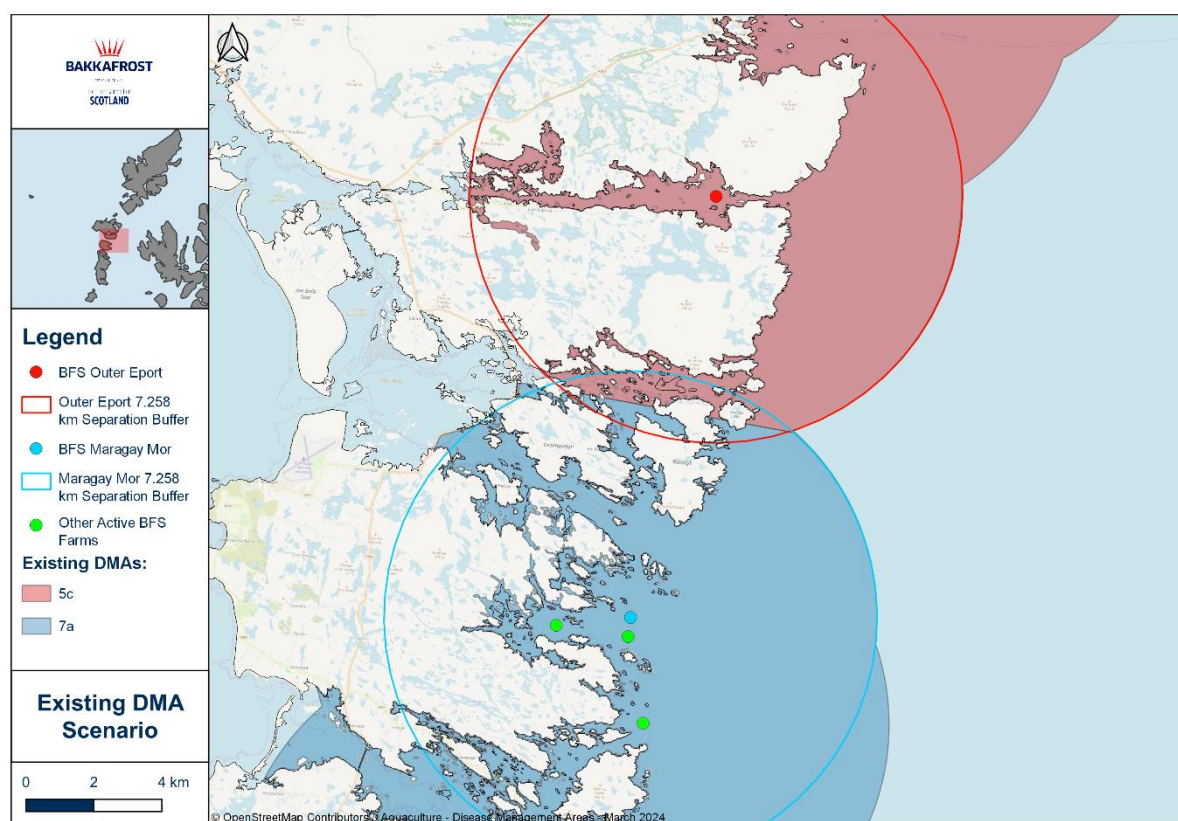


Figure 1.2: Current DMA boundary and active fish farms.

1.2.1.2 Proposed Scenario

If the Proposed Development is consented, BFS plans to permanently remove the Outer Eport fish farm (FS 1254) from production, with the farm becoming inactive. This commitment will result in the shifting of the DMA 5c boundary further north, with the new southern extent of DMA 5c now being determined by the Loch Duart Lochmaddy fish farm (FS 0853).

The Proposed Development will be located within DMA 7a, as can be seen in **Figure 1.3**. Whilst the installation of the Proposed Development and the application of its subsequent separation distance (7.258 km, as stipulated by the SGMD) will result in the spread of DMA 7a further north, in comparison to its current position, this alteration will not result in an overlap with DMA 5c (taking into account the proposed removal of the Outer Eport farm) (**Figure 1.3**).

As a result of the proposed alteration to the production strategy and activity status of the Outer Eport (FS 1254) fish farm, it is possible to accommodate the Proposed Development within DMA 7a whilst also increasing the distance between the current boundaries of DMAs 5c and 7a. This will form a robust firebreak between DMAs 5c and 7a.

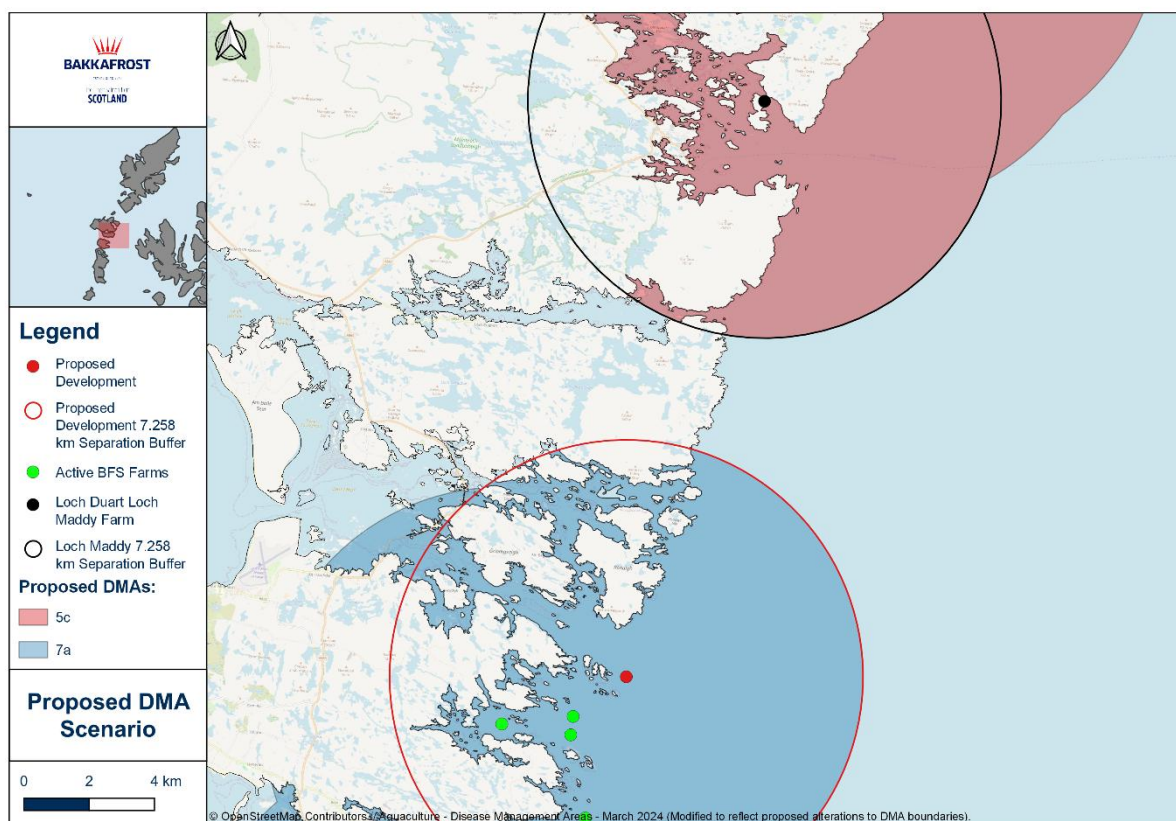


Figure 1.3: Proposed DMA boundary and active fish farms, including the Proposed Development.

1.2.1.3 DMA Scenario Summary

The existing DMA boundary scenario, with an adjoining boundary line between 5c and 7a, lacks a true fire break (physical separation). However, through the use of at-sea distance measurements (7.258 km) between the currently active fish farms, the SGMD have stated⁶ that Outer Eport (FS 1254) is sufficiently isolated from Maragay Mor (FS 1304) to reduce the potential for disease transfer.

However, the proposed DMA boundary scenario (**Figure 1.3**) will create a fire break through the physical separation of DMA 5c and 7a. As a result, BFS believes that the proposed DMA scenario presents an improvement in terms of reducing risk of disease spread between DMAs of 5c and 7a.

Through the proposed modifications to the DMA boundaries, the Proposed Development will comply with the NMP Aquaculture Policy 6 requirement.

1.2.2 Infrastructure

At this stage a final decision regarding contract award for the construction of the proposed infrastructure has yet to be made, and therefore detailed specification is not yet available. Due to the uncertainty regarding the granting of consent, along with consenting timeframes, it is not commercially viable to

⁶ Communicated to BFS by SGMD during a virtual meeting, held on 25/04/2022, discussing the initial Morrison's Rock proposal (22/00282) and the existing DMAs.

tender and commit to a specific infrastructure manufacturer at this stage. As such, details of infrastructure dimensions for the Proposed Development should be considered to be the realistic worst case scenario.

Infrastructure specifications and attestations will be provided in support of the final planning application.

1.2.2.1 Pens

The Proposed Development will be comprised of eight 160 m circumference circular pens. These pens will be held within a single group, within a 100 m x 100 m grid system. Each pen will have a surface area of 2,037.18 m², with a total surface area for all eight pens of 16,297.47 m². All pens will be manufactured from a flexible, yet robust and durable, high density polyethylene (HDPE) material. All pens will have a walkway around the perimeter to allow safe access to staff when carrying out husbandry operations. Handrails will also be installed on all pens, which are approximately 1.10 m in height. All pens will be dark grey or black in colour.

1.2.2.2 Pen Nets

The Proposed Development will include high rigidity netting (Sapphire Seal Pro, or similar), made from a unique blend of HDPE and co-polymers. This high rigidity netting is highly durable and has exceptional abrasion and cut resistance. The material is also hydrophobic and therefore repels water and maintains its strength. This netting also has a minimum mesh break strength of 120 kg, this exceeds the requirements of the Code of Good Practice for Scottish Finfish Aquaculture (CoGP).

The Proposed Development will include high rigidity netting with a mesh size of 18 mm. It is proposed that the nets will have a sidewall depth of 18 m.

1.2.2.3 Top Nets

The Proposed Development will make use of a pole mounted top net system. The top netting is likely to be supported by 20 poles per pen, each approximately 8 m in height, located at equal intervals around the pen ring. The poles are connected to the pens via brackets installed on the stations of the handrails.

The top netting will have a mesh size aligned to the recommendations of NatureScot (NS) in their Interim Technical Briefing Note: Pole-mounted top nets and birds at finfish farms⁷, 100 mm mesh on the ceiling and 75 mm mesh on the sidewalls.

1.2.2.4 Feed Barge

The Proposed Development will require a purpose built feed barge to be moored alongside the pen grid. The feed barge will be used to store the feed in purpose built, fully enclosed feed silos. The feed barge will also house the feeding system, which delivers the feed from the storage silos directly to the individual pens. It is proposed that the feed barge will have a feed storage capacity of 600 T.

At present a final decision on the feed barge manufacturer and model has not been made. The likely worst-case scenario for the feed barge is presented in **Table 1.1**. The selected feed barge is unlikely to exceed the dimensions listed in **Table 1.1**.

Table 1.1: Feed barge worst-case scenario.

Parameters	Worst Case Scenario
Feed Storage Capacity (T)	600
Length (m)	40.00

⁷ NatureScot. Interim Technical Briefing Note - Pole-mounted top nets and birds at finfish farms. [Online] Available at: <https://www.nature.scot/doc/interim-technical-briefing-note-pole-mounted-top-nets-and-birds-finish-farms>

Parameters	Worst Case Scenario
Beam (m)	20.00
Surface Area (m ²)	800
Maximum Height (unloaded) (m)	8.50

1.2.2.5 Mooring System

The 100 m x 100 m grid system, within which each of the eight pens will be secured, will be held in place within the Development Area via mooring legs. These mooring legs are likely to be comprised of rope, chain, and anchors. It is proposed that a full mooring system analysis will be undertaken by a competent mooring specialist, which will consider the observed and modelled environmental conditions at the Development Area.

This in-depth analysis will allow for the determination of a suitable mooring system. The mooring system will be designed to be able to withstand at least a 1 in 50-year return period event, a requirement of both the SGMD: A Technical Standard for Scottish Finfish Aquaculture (STS) and the Norwegian Standard (NS9415:2021).

All mooring system infrastructure to be installed at the Proposed Development will have been modelled to determine suitability prior to deployment. The Mooring Analysis Report will be submitted as supporting documentation alongside the final planning application.

At present, the Development Area, within which all moorings will be placed, is considered, at 0.67 km², to represent the worst-case scenario. During the design of the mooring system every effort will be made to ensure that the mooring lines are kept as short as possible, therefore, the design process may lead to the Development Area being reduced. This will be presented in the EIAR.

1.2.2.6 Lighting

1.2.2.6.1 Navigational Lighting

Navigational lights are used for marking and safety purposes. Fish farm navigation lighting requirements are specified by the Northern Lighthouse Board (NLB). These are provided as guidance during the planning application process and are conditioned within marine licences, issued by the Marine Directorate Licensing Operations Team (MD-LOT). The Proposed Development will be lit as per the NLB requirements.

1.2.2.6.2 Production Lighting

Underwater lighting may be used during production cycles, the requirement for this will be influenced by factors, such as:

- Stock;
- Timing of input of fish through the year;
- Nutritional status at certain times of the year;
- Energetic reserves;
- Weight;
- Growth rate; and
- Photoperiod.

The decision on whether to deploy underwater lighting during a production cycle will be made by the Area Manager, the Head of Marine Production, and the Biology Director.

Dependent on stocking times, the worst case scenario for the use of underwater lighting would be from input during quarter (Q) 4 through to June the following year. However, the stocking time of the Proposed

Development has not been finalised, and may also vary year on year, so in reality the use of underwater lighting may be for a much reduced temporal period in comparison to the worst case scenario.

It is proposed that low energy, long life 500 W LED lights will be used, with up to six lights deployed per pen. The lighting will be installed at a depth of 6 m within all pens stocked with fish and directed downwards into the pens and not offsite.

1.2.2.7 Primary Marine Vessels

In order to effectively and efficiently service the Proposed Development, it is proposed that one new marine vessel would be commissioned and added to the BFS Kallin shorebase service fleet. This would likely be a 9 m polarcirkel vessel, to be used for daily commuting to the Proposed Development and small-scale husbandry operations. A landing craft style workboat, up to 24 m in length, will be used for larger-scale husbandry procedures and it is considered that BFS has sufficient capacity of this size of vessel within the BFS Kallin service fleet to service the Proposed Development and the other fish farms operated out of Kallin. This operational decision will help reduce marine vessel activity associated with the Proposed Development. Both vessels, under normal operational conditions, would likely undertake a single return journey to the Proposed Development on a daily basis.

1.3 Environmental Impact Assessment: Screening and Scoping

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017⁸ (the EIA Regulations) transpose European Union (EU) Directive 2014/52/EU, which amended EU Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

The EIA Regulations outline the process of an EIA and the relevant thresholds and criteria that determine if a planning application requires EIA or not. The EIA Regulations further define what relevant environmental data is required, how the Local Planning Authority (LPA) and the respective consultees assess this environmental data, and how the Town and Country Planning (Scotland) Act 1997¹ (as amended) implements the requirements of the EIA Regulations through planning consent.

The EIA Regulations define a proposed development as either:

- **Schedule 1 Development:** Development of a type listed in Schedule 1 is always EIA development; or
- **Schedule 2 Development:** Development of a type listed in Schedule 2 is EIA development if it is likely to have significant effects on the environment through aspects such as the nature, size, and location of the proposed development.

Intensive fish farming is listed within Schedule 2 of the EIA Regulations. For a proposed development to classify as Schedule 2 Development it either has to be located wholly or partly in a sensitive area (as defined in Regulation 2(1)) or meet or exceed any one of the following relevant criteria thresholds:

- The installation resulting from the development is designed to produce more than 10 T of dead fish weight per year;
- Where the development is situated in marine water, the development is designed to hold a biomass of 100 T or greater: or
- The development will extend to 0.1 hectares or more of the surface area of the marine waters, including any proposed structures or excavations.

The Proposed Development is:

⁸ Scottish Government: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. [Online] Available at: <https://www.legislation.gov.uk/ssi/2017/102/contents>

- Located within the Inner Hebrides and the Minches Special Area of Conservation (SAC) and the Sea of the Hebrides Nature Conservation Marine Protected Area (NCMPA), which classify as sensitive areas (as defined in Regulation 2(1));
- Is designed to produce more than 10 T of dead fish weight per year;
- Is designed to hold a peak passing biomass greater than 100 T; and
- Will cover a surface area greater than 0.1 ha.

As a result, the Proposed Development is classified as Schedule 2 Development, under the EIA Regulations.

The requirement for an EIA is then assessed through Schedule 3 of the EIA Regulations (Selection Criteria for Screening Schedule 2 Development). The selection criteria in Schedule 3 includes an assessment of the following:

- Characteristics of the development;
- Location of the development; and
- Characteristics of the potential impacts of the development.

1.3.1 Screening and Scoping Request

As the screening and scoping request information requirements are similar to one another, it is often considered beneficial to submit both the screening and scoping requests at the same time, as detailed within Regulation 17(7) of Part 4 of the EIA Regulations.

However, in this case, as the Screening Opinion for the previous proposal determined that EIA was required, it is determined that due to the similarities between the previous proposal and the Proposed Development, EIA will be required for the Proposed Development. As such, BFS are not seeking a Screening Opinion from the LPA.

1.3.1.1 Scoping Request

As per Regulation 17(1) of Part 4 of the EIA Regulations, BFS is requesting a Scoping Opinion from the LPA. This is in order to confirm the scope of the EIA and, in particular, what the LPA considers the significant effects of the Proposed Development are likely to be, and therefore, the topics on which the EIAR should focus.

As detailed within Regulation 17(2) of the EIA Regulations a request for a Scoping Opinion must be accompanied by:

- a) A description of the location of the development, including a plan sufficient to identify the land;
- b) A brief description of the nature and purpose of the development and of its likely significant effects on the environment; and
- c) Such other information or representations as the developer may wish to provide or make.

To allow the LPA to produce a Scoping Opinion for the Proposed Development, BFS has provided the information specified within Regulation 17(2) of the EIA Regulations within this Report.

1.3.2 Consultation and Engagement

The identification of potential environmental impacts and therefore subsequent effects is an iterative and cyclical process, which runs in tandem with the iterative design process, discussed in **Sub-Section 1.2**. This process has already begun with pre-application consultation undertaken with a number of statutory and non-statutory consultees. As the design of the Proposed Development and the EIA progresses, consultation will form an integral part of the process. Throughout the EIA process, stakeholder

engagement events will be held at locations local to the Proposed Development. These events will provide members of the public the opportunity to learn more about BFS and the Proposed Development and give feedback and comments to the project team, which may be fed back into the design of the Proposed Development, if necessary. Consultation on specific technical issues will also be undertaken with relevant consultees, where appropriate, as part of the EIA process.

1.4 Consenting Strategy

Scotland currently has a complex legislative and regulatory framework in relation to aquaculture developments within the marine environment. **Table 1.2** lists the consents, licences, and permissions required for the lawful development of a marine open pen fish farm within the Scottish inshore region.

Table 1.2: Relevant statutory consents, licences, and permissions needed for marine aquaculture development along with the proposed consenting strategy.

Legislative and Regulatory Regime	Relevant Authority	Detail on Consenting Strategy
The Town and Country Planning (Scotland) Act 1997 (as amended)	LPA: CnES	A planning application will be submitted to CnES. This application will be accompanied by an EIAR, informed by the Scoping Opinion.
Marine (Scotland) Act 2010 (Part 4: Marine Licensing)	SGMD	<p>Under Part 4 of the Marine (Scotland) Act 2010, the Proposed Development requires a licence to deposit any substance or object in the Scottish marine area.</p> <p>It is proposed that the marine licence application will be submitted at the same time as the planning application to help streamline consenting timeframes.</p>
<p>The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)</p> <p>(The Water Environment and Water Services (Scotland) Act 2003)</p>	SEPA	<p>SEPA regulates discharges from finfish farms by issuing Controlled Activities Regulations (CAR) Licences that limit the levels of pollutants that finfish farms discharge to the water environment.</p> <p>BFS has submitted a pre-application proposal for the Proposed Development and have therefore started the pre-application process with SEPA.</p> <p>Once the pre-application process is complete and all the relevant information has been collated, BFS will submit a formal permit application to SEPA.</p>
The Crown Estate Act 1961 and the Scottish Crown Estate Act 2019	Crown Estate Scotland (CES)	<p>CES will only issue a lease for an area of seabed for a finfish farm once all other statutory consents are in place; planning permission, marine licence, and CAR Licence.</p> <p>Therefore, BFS has submitted an application, and received approval, for a lease option agreement (LOA) for the seabed covering the Development Area.</p> <p>This provides a short-term, secure and exclusive interest in the area of seabed while applications for the necessary statutory consents are prepared and submitted.</p> <p>Once all statutory consents are in place the LOA will be exercised for a full lease agreement.</p>

2 EIA Approach and Methodology

2.1 Introduction

The section of the Report provides detail on:

- The methodology to be applied to assess potential impacts and subsequent effects of the Proposed Development on environmental receptors;
- The approach to mitigation measures;
- The approach to be applied to assessing potential cumulative impacts and effects; and
- The approach to be applied to certain technical environmental topics.

2.2 Proposed Approach to EIA

2.2.1 Description of Baseline Condition

Prior to being able to assess the potential impacts and subsequent effects of the Proposed Development on the receiving environment, a detailed understanding of the existing environmental condition is required. Baseline conditions will be established by:

- Desk-Based Assessments (DBAs);
- Site visits and surveys; and
- Modelling.

DBAs, supported by modelling where relevant, will be undertaken as the primary step, to gain a better understanding of the study area and the receptors present. Where the information and data available through the DBAs results in incomplete or uncertain conclusions on the baseline condition of the study area, field-based surveys will be conducted by competent third party contractors. The field-based surveys aim to provide additional information and data to support the assessments of the baseline condition, in order for representative conclusions on the baseline condition to be made. The results of the DBAs and field-based surveys, where necessary, form the current baseline environmental condition for each receptor.

The baseline conditions for each environmental factor as currently understood are set out within the respective sections of this Report.

Moreover, Schedule 4 of the EIA Regulations requires that ***“A description of the relevant aspects of the current state of the environment (the “baseline scenario”) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of relevant information and scientific knowledge”*** is included within the EIAR. As such, each technical assessment will provide a qualitative assessment of the likely evolution of the baseline condition. These qualitative descriptions of the evolution of the baseline condition will be based upon available information and scientific knowledge.

2.2.2 Assessment of Potential Impacts and Effects

There is often a lack of clarification around the definition of ‘impact’ and ‘effect’ when used within the EIA process. Throughout the EIA process for the Proposed Development the term ‘impact’ is used to define a change that is caused by an action, for example, marine vessel activity during the operational phase (the action) results in increased levels of subsea noise (the impact). The term ‘effect’ is used throughout this assessment to express the outcome of an impact (i.e., the increased levels of noise (the impact) from marine vessel activity (action) has the potential to disturb marine mammals (the effect)) when reporting on its level of significance. Effects can be direct, indirect, secondary, cumulative, inter-related or transboundary. They can also be beneficial, adverse or negligible.

All three phases of the Proposed Development (construction, operation, and decommissioning) have the potential to give rise to differing impacts and subsequent effects. Therefore, all three phases must be considered when assessing the potential for significant impacts and effects under the EIA Regulations.

2.2.2.1 Defining Magnitude and Sensitivity

The EIA for those potential effects scoped in, will describe the level of significance of the adverse and positive effects arising from the Proposed Development using a standard EIA methodology. The assessment process will consider the potential magnitude of the impact to the baseline conditions arising from the Proposed Development and the sensitivity of the particular environmental receptor under consideration.

2.2.2.1.1 Magnitude of Impact

The magnitude of potential impacts will be identified through consideration of the Proposed Development, and the following factors:

- The Size and scale of the impact;
- The duration of the impact;
- The timing of the impact;
- The frequency of the impact; and
- The reversibility of the impact.

Based upon the criteria detailed above, the overall magnitude of an impact is assessed as being within one of five distinct categories, and is also assigned a direction of impact, either adverse or beneficial. The five categories of overall magnitude are detailed below:

- No Change;
- Low;
- Medium; and
- High.

Each technical assessment presented within the EIAR will present a magnitude of impact table, which will outline how the categorisation of overall magnitude is defined based on topic-specific criteria.

2.2.2.1.2 Sensitivity of Receptors

The sensitivity of a receptor (or a group of receptors) is primarily influenced by its tolerance to the change and its ability to recover from being impacted. As such, the sensitivity of a receptor can be defined through consideration of the following factors:

- Adaptability;
- Tolerance;
- Reversibility and Recoverability; and
- Value and Importance.

Based upon the criteria detailed above, the sensitivity of a receptor is assessed as being within one of four distinct categories. The four categories of sensitivity are detailed below:

- Negligible;
- Low;
- Medium; and
- High.

Each technical assessment presented within the EIAR will present a sensitivity of receptors table, which will outline how the categorisation of receptor sensitivity is defined based on topic-specific criteria.

2.2.2.2 Significance of Effect

In order to determine the significance of an effect, either adverse or beneficial, a combination of the overall magnitude of impact and receptor sensitivity is used. A matrix approach is used in this EIA to ensure a consistent and comparable approach, where there are exceptions to this, it is made clear in the methodology sub-section of the relevant topic section. The terms assigned to categorise the significance of effects are described in **Table 3.2**, which also illustrates the assessment matrix for determining effect significance. The impact magnitude is combined with the receptor sensitivity to determine the significance of effect.

Any effect that is concluded to be of '**Moderate**' or '**Major**' significance is deemed to be '**Significant**' in relation to the EIA Regulations. Effects concluded to be of '**Negligible**' or '**Minor**' significance are deemed to be '**Non-Significant**' in relation to the EIA Regulations.

Table 2.1: Framework for assessment of the significance of potential effects.

Magnitude of Impact		Sensitivity of Receptor			
		High	Medium	Low	Negligible
Adverse	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor	Negligible
Neutral	Negligible	Minor	Minor	Negligible	Negligible
	No Change	Negligible	Negligible	Negligible	Negligible
	Negligible	Minor	Minor	Negligible	Negligible
Beneficial	Low	Moderate	Minor	Minor	Negligible
	Medium	Major	Moderate	Minor	Negligible
	High	Major	Major	Moderate	Minor

2.2.2.3 Deviation from the Standard EIA Methodology

The standard approach to assessment, including the matrix approach, detailed in **Sub-Section 2.2.2** will be applied to the majority of EIA technical assessments with the exception of those undertaken in accordance with guidance for Ecological Impact Assessment (EcIA) published by the Chartered Institute of Ecology and Environmental Management (CIEEM)⁹, which will be (in this Report); **Section 3: Benthic Ecology, Section 5: Marine Mammals and Other Marine Megafauna, Section 6: Wild Salmonids, and Section 7: Coastal and Marine Ornithology**. In addition, the Seascape, Landscape and Visual Assessment (**Section 10**) will be undertaken in accordance with the Landscape Institute / Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)¹⁰.

2.2.2.4 Mitigation and Residual Effects

EIA is an iterative process rather than a unique, post-design, environmental appraisal. Where the findings of the technical assessments will be used to inform the design of the project, and hence achieve a 'best fit' with the receiving environment. This approach will be adopted in respect of the Proposed Development; where potentially significant effects are identified; their avoidance, prevention, or

⁹ CIEEM. Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal, and Marine. Version 1.1 (updated September 2019). [Online] Available at: <https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/>

¹⁰ Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Routledge, London. [Online] Available at: <https://www.landscapeinstitute.org/technical/glvia3-panel/>

reduction will be prioritised at the design stage. This is referred to as 'embedded mitigation', i.e., mitigation that is embedded within the project design, and includes best practice procedures and measures as well as design features.

The mitigation hierarchy, outlined with the Institute of Environmental Management and Assessment (IEMA) guidance¹¹, has a series of systematic steps in order of preference, with enhancement running alongside, but in separation from the mitigation hierarchy step. The systematic steps of the mitigation hierarchy are shown in **Figure 2.1**.

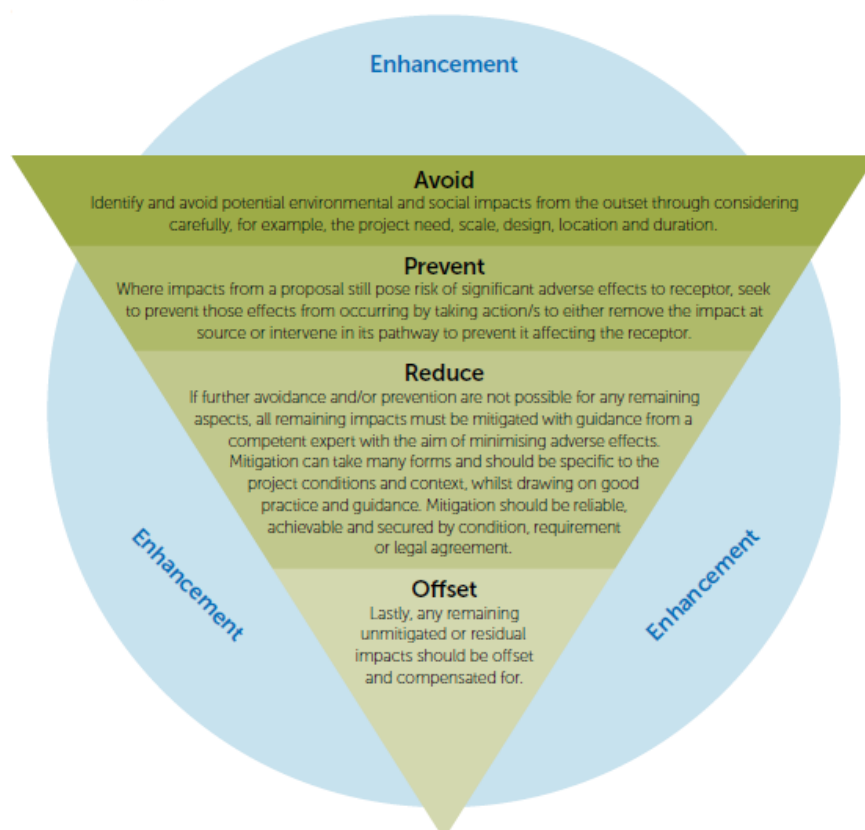


Figure 2.1: IEMA mitigation hierarchy.

The embedded mitigation, along with any additional mitigation measures, will be presented within the EIAR section relevant to each environmental topic. Embedded mitigation measures will be considered during the pre-mitigation scenario assessment of the magnitude of potential impacts.

Following the initial assessment of the likely significant effects of the Proposed Development any additional mitigation measures will be outlined within the EIAR section relevant to each environmental topic. In light of any proposed additional mitigation measures, an assessment of the significance of residual effects will be undertaken. These additional mitigation measures are envisaged to further reduce a negative effect or enhance a positive one.

2.2.2.5 Cumulative Impact Assessment

In accordance with the EIA Regulations, the assessment will consider cumulative impacts and subsequent effects. These are effects that result from changes caused by present, or reasonably foreseeable developments together with the Proposed Development. The combined effects of several

¹¹ Institute of Environmental Management and Assessment (IEMA). Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction. August 2024. [Online] Available at: <https://marketplace.mimeo.co.uk/IEMAonlinepublicationsshop#name=17>

developments that may on an individual basis be insignificant but cumulatively or in-combination, have a significant effect will be assessed as part of the cumulative assessments.

For cumulative assessment, two types of effects are considered:

- The combined effect of individual effects, for example benthic and water column effects on a single receptor; and
- The combined effects of several developments that may on an individual basis be insignificant, but cumulatively, have a significant effect, such as landscape and visual effects of many fish farm developments.

The extent of any cumulative assessment relative to each technical assessment will be agreed during the consultation process and may include both existing and proposed fish farm developments as well as other forms of development.

2.3 Additional EIA Matters

2.3.1 Consideration of Human Health

As stated in Regulation 4(3) of the EIA Regulations, the EIA must identify, describe, and assess the direct and indirect effects on population and human health.

Impacts to human health have been considered within this Report within **Sections 8, 9, 10, 11, 12, 13, and 14** and will be considered within the EIAR in the associated Sections, if scoped in for further assessment. Where an impact relating to human health has been scoped out within this Report, no adverse effects on human health are anticipated. Any positive impacts on human health in relation to employment and economic benefits will be considered within the socio-economic assessment of the EIAR. A stand-alone EIA section for the effects on human health is not proposed.

2.3.2 Consideration of Major Accidents and Disasters

As stated in Regulation 4(4) of the EIA Regulations, potential significant effects deriving from the vulnerability of the Proposed Development to risks, so far as relevant to the Proposed Development, of major accidents and disasters must be identified, described and assessed.

It is considered that potential significant impacts, and subsequent effects, relate to the failure of containment infrastructure and the large-scale release of stock into the receiving water environment. This potential impact has been considered within **Section 6** of this Report. A stand-alone EIA section for the potential effects as a result of major accidents and disasters is not proposed.

2.3.3 Consideration of Waste Management

A Waste Management Plan (WMP) specific to the Proposed Development, a company-wide General WMP, and the Decommissioning Redundant Equipment and Materials (DREaM) manual will be provided in support of the final application. These documents form part of BFS's Environment Management System (EMS) which is certified under ISO 14001:2015.

All waste streams are collected by SEPA registered waste carriers and delivered to SEPA licensed waste disposal sites. The Proposed Development will not result in a change to the current waste management procedures in place at the BFS Kallin shorebase. It is therefore proposed that this topic is scoped out of further assessment.

2.3.4 Consideration of Tourism and Recreation

A stand-alone section identifying, describing, and assessing potential impacts and effects on tourism and recreation is not proposed, as it is considered that potential impacts on tourism and recreation are comprehensively covered in **Section 9** and **Section 10** of this Report.

Section 9 covers potential impacts on marine based recreation, whilst **Section 10** covers potential impacts on visual amenity from a number of tourist locations within the defined study area.

3 Benthic Ecology

3.1 Introduction

This section of the Report identifies the benthic ecology receptors of relevance to the Proposed Development. It describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on benthic species and habitats (up to the mean high-water springs (MHWS) mark) and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

3.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on benthic ecology. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 3.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgements as to which impacts can be scoped in / out presented in **Sub-Section 3.5**.

Table 3.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevance
Development Location	The dispersion potential of the development location will allow for organic material and in-feed residue discharges to be dispersed to low levels over a wide area.	Potential impacts arising from organic (carbon) deposition; and Potential impacts arising from in-feed residue deposition.
Farm Design and Layout	The Proposed Development will make use of a small number of larger pens. This will help limit the spatial extent of the Proposed Development in relation to the benthic environment.	
NewDEPOMOD (NDM) Modelling	NDM modelling for the Proposed Development has been undertaken for both organic and in-feed residue deposition. The outputs indicate compliance to SEPA regulatory criteria. The NDM Modelling Report is provided as Appendix B .	
Feed Control and Monitoring	Effective feed control and monitoring will reduce feed wastage and minimise the potential for organic deposition beneath the Proposed Development.	
Pellet Detection Software (Feeding Operations)	This software reduces the amount of excess feed being distributed to fish, which is anticipated to reduce potential organic deposition impacts on the benthos.	
SEPA CAR Licencing (The Water Environment (Controlled Activities) (Scotland) Regulations 2011)	The Proposed Development will be regulated by SEPA through compliance with the conditions of the CAR Licence.	
Environmental Quality Standards (EQS)	Discharge limits for the Proposed Development represent discharge quantities that have been modelled and show full compliance to the relevant EQSs.	
Fallowing	At present, SEPA require that there is a minimum period of 28 consecutive days between every production cycle during which no commercial species shall be kept onsite. This is to allow for an acceptable level of recovery of the benthic environment in the vicinity of the site.	
Enforcement	Through the Water Environment (Controlled Activities) (Scotland) Regulations 2011, SEPA has enforcement powers to decrease the maximum biomass if the Proposed Development is deemed to continuously not comply with benthic quality standards.	
Sea Lice Management Strategy (SLMS)	The Proposed Development will be operated in line with the company SLMS. The SLMS provides an overarching framework of strategic principles under which sea lice will be managed across all BFS marine fish farms.	
Integrated Sea Lice Management (ISLM) Plan	The Proposed Development will implement the ISLM Plan, which provides guidance on how the SLMS measures are to be implemented. The aim of the ISLM Plan is to actively reduce the use of medicinal products (which will reduce the amount potentially discharged from the Proposed Development).	
Environmental Monitoring Plan (SEPA)	A draft Environmental Monitoring Plan will be developed and submitted to SEPA as part of the CAR Licence pre-application process. SEPA will determine the finalised Environmental Monitoring Plan, and this will be attached as an enforceable condition to the CAR Licence.	
Mooring System Specification	During the mooring system design and analysis process, effort will be made to reduce the horizontal length of the mooring lines whilst ensuring that the system is suitable for the observed and modelled environmental conditions. This will be confirmed through detailed mooring system specification and attestation. This process should allow for the final mooring system footprint to be minimised as much as responsibly possible.	Physical disturbance due to the mooring system of the Proposed Development.

3.3 Baseline Condition

The following sub-section provides a high-level overview of the benthic ecology baseline environment for the study area, including a review of the relevant marine nature conservation designations.

3.3.1 Study Area

A benthic ecology Wider Study Area (WSA) has been defined as the Development Area of the Proposed Development inclusive of a 3 km search radius, as illustrated in **Figure 3.1**.

It is proposed that a Detailed Study Area (DSA) will be defined, in line with the latest SEPA guidance on Baseline Survey Design¹². A detailed description of the DSA will be presented in the EIAR.

Where relevant, an additional study area that reflects the medium and far field deposition, modelled through hydrodynamic modelling, will also be presented in the EIAR.

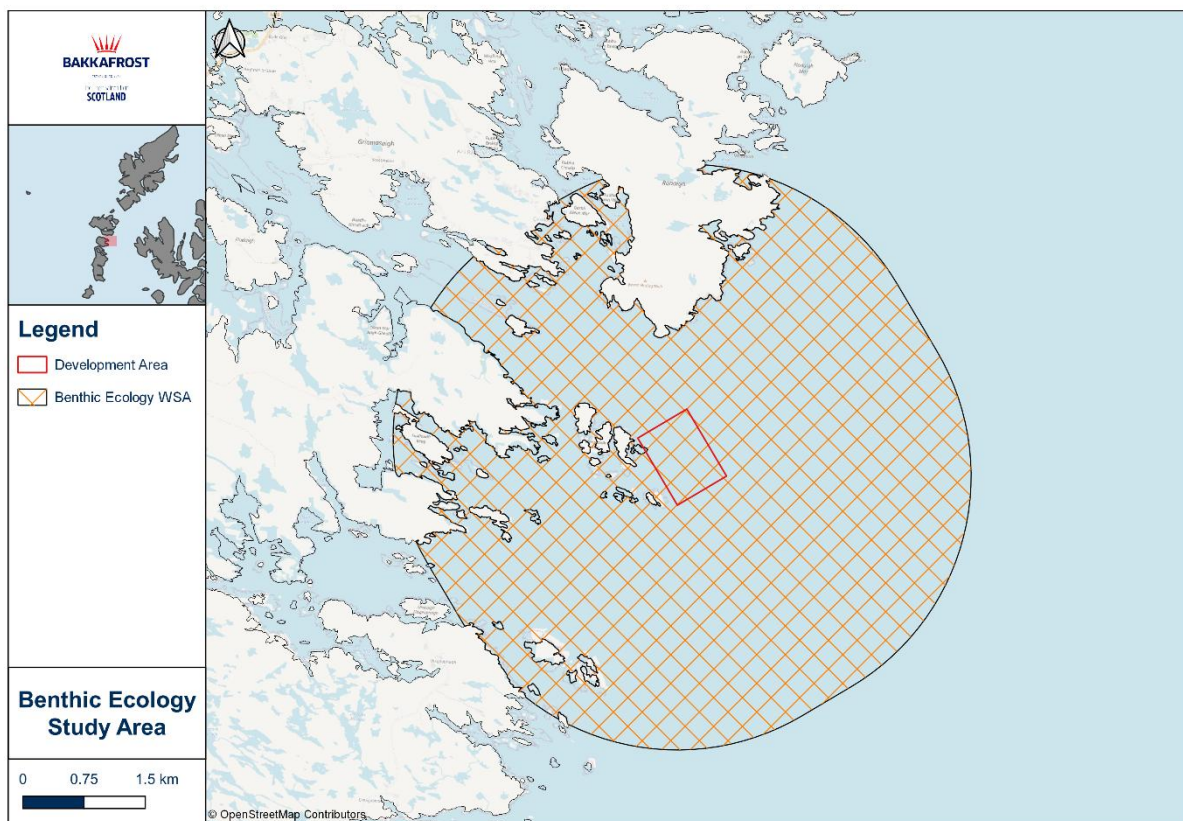


Figure 3.1: Benthic ecology WSA.

3.3.2 Designated Sites

An initial search for designated sites, which were designated for benthic ecology interest, habitats, or species, failed to identify any designated sites within the WSA.

3.3.3 Biological Records

3.3.3.1 Priority Marine Features

Priority Marine Features (PMFs) were identified through a scientific evaluation of Scotland's known marine biodiversity interests. Species and habitats on existing conservation lists were assessed against

¹² SEPA. Finfish Aquaculture Sector. Baseline Survey Design. [Online] Available at: <https://www.sepa.org.uk/media/594232/baseline-survey-design.pdf>

criteria that considered whether a significant proportion of their population occur in Scottish seas, whether they are under threat or decline, and what functional role they play. All the features which have passed the criteria are considered important components of the biodiversity of Scottish seas. The list of PMFs reflects current knowledge and understanding of marine habitats and species in Scottish seas and may be updated in future, in light of periodic review of the best available evidence.

3.3.3.1.1 Publicly Available Data Sources

Review of publicly available data held within the Geodatabase of Marine features adjacent to Scotland (GeMS)¹³ identified three broadscale benthic PMFs within the WSA. A summary of these broadscale PMFs and their component biotopes, where applicable, is provided in **Table 3.2**. **Figure 3.2** illustrates the spatial distribution of the identified PMFs within the WSA.

Table 3.2: Summary of PMF habitat types identified within the WSA.

PMF Name	Component Biotope	Number of Records	Year of Record	Closest Proximity to the Proposed Development (km)
Kelp and seaweed communities on sublittoral sediment	SS.SMp.KSwSS.LsacR.Sa	1	1990	2.64
Kelp beds	IR.MIR.KR.Lhyp.Ft	1	1990	2.64
Northern sea fan and sponge communities	CR.MCR.EcCr.CarSwi.LgAs	1	1990	2.24
	<i>Swiftia pallida</i> individuals	1	1990	

¹³ NatureScot and JNCC. GeMS. <https://opendata.nature.scot/maps/0e722e3e911e424f8dacac5a587c0dfb/about>

[Online] Available at:

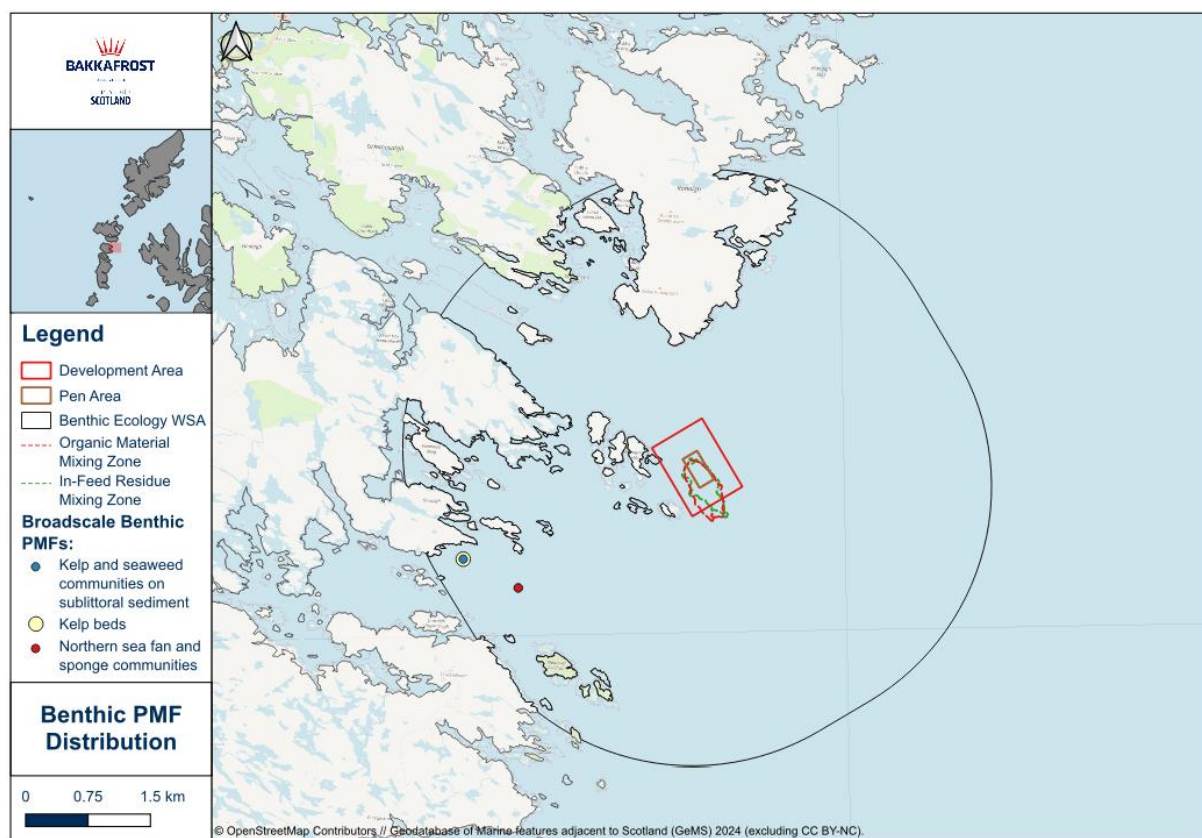


Figure 3.2: Spatial distribution of PMFs identified within the WSA.

3.3.3.1.2 BFS Commissioned Benthic Surveys

BFS hold benthic visual survey data for the initial Morrison's Rock proposal location (**Sub-Section1.1**). This survey was undertaken by Ocean Ecology Ltd. (OEL) in August 2022, as a requirement of the SEPA CAR licence application process. Due to the relatively close proximity between the location of the initial proposal and the Proposed Development (as presented in this Report), these survey data are considered of relevance. A summary of the broadscale PMF habitat types and their component biotopes (where applicable) that were identified through this visual survey is provided in **Table 3.2**. **Figure 3.2** illustrates the spatial distribution of the identified PMFs.

Table 3.3: Summary of the PMF habitats identified through the visual survey of the initial Morrison's Rock proposal.

PMF Name	Component Biotope	Number of Records	Closest Proximity to the Proposed Development (m)
Kelp Beds	IR.HIR.KFaR.LhypR	4	94.58
Northern Sea Fan and Sponge Communities	CR.MCR.EcCr.CarSwi	3	Overlap with Development Area
Tide-Swept Algal Communities	IR.MIR.KT.XKT	1	164.24

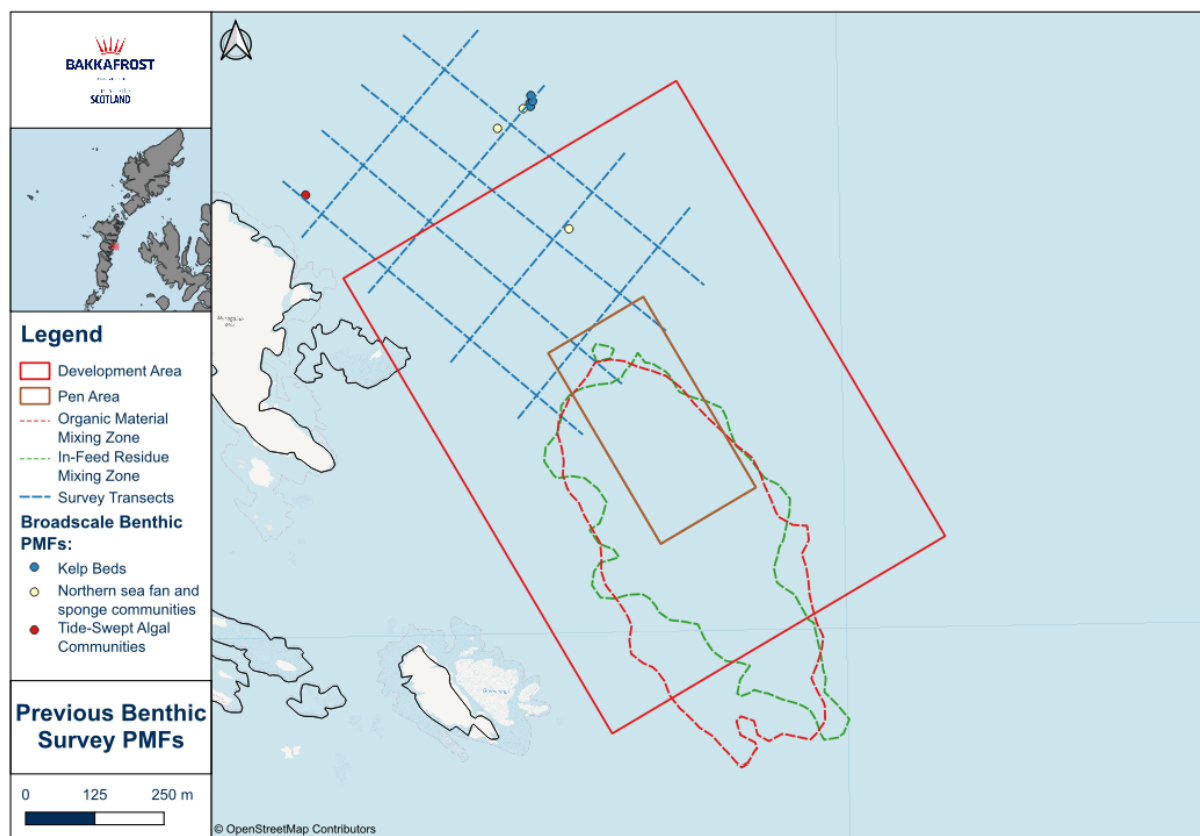


Figure 3.3: Spatial distribution of PMFs identified through the visual survey of the initial Morrison's Rock proposal.

3.3.3.2 92/43/EEC Annex I Habitat Features

Annex I habitats are defined under the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora¹⁴ (the Habitats Directive). Under this directive, species and habitats that fall into specific categories are eligible for legal protection from activities that have the potential to damage them. Annex I habitats are protected through a network for SACs that aims to establish a network of important high quality conservation sites that will make a significant contribution to conserving the habitats listed in Annex I. Where Annex I habitats are not designated as a feature of an SAC, they are not afforded protection.

3.3.3.2.1 Publicly Available Data Sources

As detailed in **Table 3.4**, non-designated Annex I 'possible sandbanks which are slightly covered by sea water all the time' and Annex I 'reef' have been recorded across the WSA. The identified Annex I features are associated with a region of complex bathymetry to the west-southwest of the WSA.

Table 3.4: Summary of Annex I habitat types identified within the WSA.

Annex I Habitat Type	Annex I Sub-Type	Component Biotope	Number of Records	Year of Record	Closest Proximity to the Proposed Development (km)
Possible Sandbanks	Unassigned sub-type	SS.SMu.CSa Mu.VirOphPm ax	1	1990	2.24

¹⁴ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora. [Online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043>

Annex I Habitat Type	Annex I Sub-Type	Component Biotope	Number of Records	Year of Record	Closest Proximity to the Proposed Development (km)
which are slightly covered by sea water all the time	Sandbank feature (Kelp and seaweed)	SS.SMp.KSw SS.LsacR.Sa	1	1990	2.64
	Unassigned sub-type	SS.SMu.CSa Mu.VirOphPm ax.HAs	1	1990	2.88
Reefs		IR.LIR.K.Lsac.Gz	1	1990	2.24
		CR.MCR.EcCr.CarSwi.LgAs	1	1990	2.24
		IR.LIR.K.LhypLsac.Gz	1	1990	2.24
		IR.MIR.KR.Lhyp.Ft	1	1990	2.64
		IR.LIR.K.LhypLsac.Ft	1	1990	2.87
	Bedrock / Stony	IR.LIR.K.LhypCape	1	1990	2.87
	Bedrock	CR.MCR.EcCr.AdigVt	1	1990	2.87

3.3.3.2.2 BFS Commissioned Benthic Surveys

BFS hold benthic visual survey data for the initial Morrison's Rock proposal location (**Sub-Section 1.1**). This survey was undertaken by OEL in August 2022, as a requirement of the SEPA CAR licence application process. Due to the relatively close proximity between the location of the initial proposal and the Proposed Development (as presented in this Report), these survey data are considered of relevance. A summary of the Annex I habitat types, and their component biotopes (where applicable), that were identified through this visual survey is provided in **Table 3.5**. **Figure 3.4** illustrates the spatial distribution of the identified Annex I habitat types.

Table 3.5: Summary of the Annex I habitats identified through the visual survey of the initial Morrison's Rock proposal.

Annex I Habitat Type	Annex I Sub-Type	Component Biotope	Number of Records	Closest Proximity to the Proposed Development (m)
Reefs	Bedrock	IR.MIR.KR	4	22.40
		IR.MIR.KR.XFoR	1	105.70
		IR.MIR.KT.XKT	5	4.17
		CR.HCR.XFa	38	Overlap with Development Area

Annex I Habitat Type	Annex I Sub-Type	Component Biotope	Number of Records	Closest Proximity to the Proposed Development (m)
		CR.MCR	3	Overlap with Development Area
		CR.MCR.EcCr.CarSwi	1	7.43
		SS.SMx.CMx	2	Overlap with Development Area

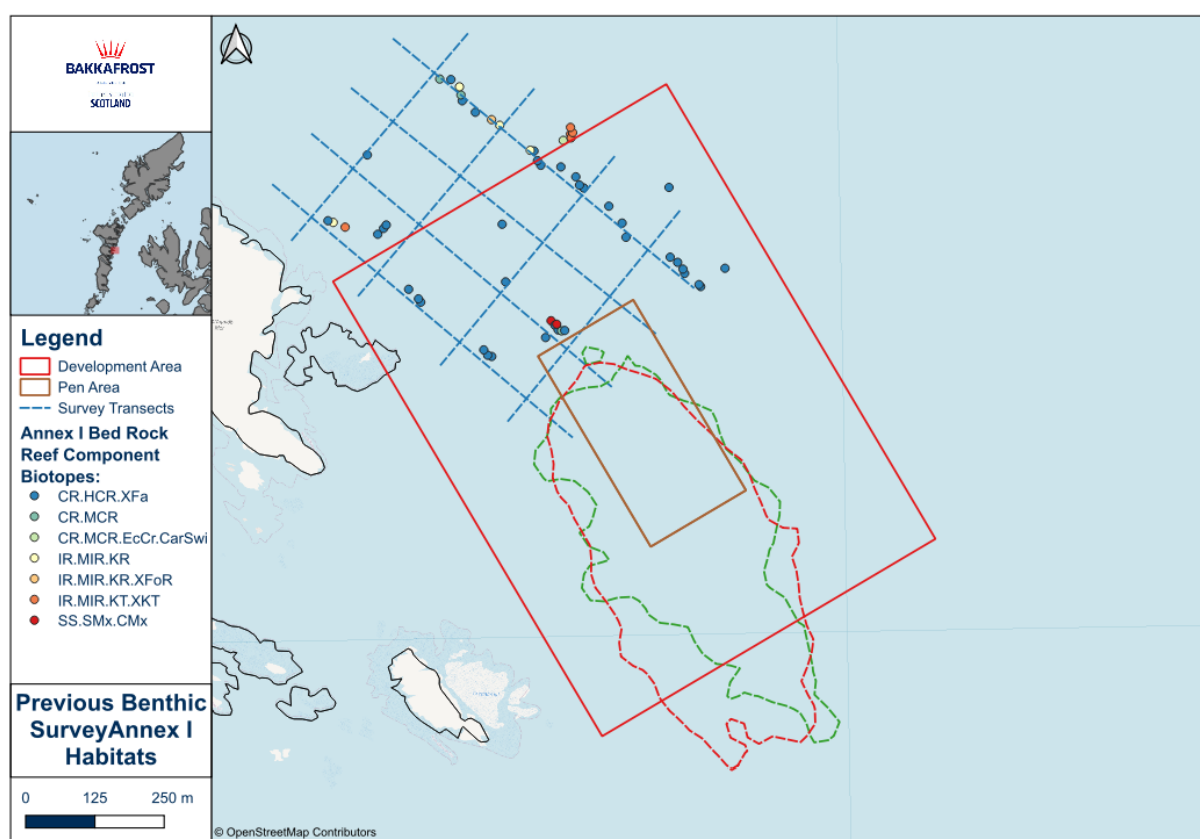


Figure 3.4: Spatial distribution of Annex I habitat types identified through the visual survey of the initial Morrison's Rock proposal.

3.4 Proposed Approach to the Environmental Impact Assessment

The benthic ecology EIA will follow the EclA methodology outlined in **Sub-Section 2.2.2.3**. Where possible, the sensitivity of specific receptors will be defined through review of the Marine Evidence-based Sensitivity Assessment¹⁵ (MarESA) framework and the Feature Activity Sensitivity Tool¹⁶ (FeAST).

¹⁵ MarLIN. Marine Evidence-based Sensitivity Assessment (MarESA). [Online] Available at: https://www.marlin.ac.uk/sensitivity/sensitivity_rationale

¹⁶ Feature Activity Sensitivity Tool (FeAST). [Online] Available at: <https://feature-activity-sensitivity-tool.scot/>

3.4.1 Data Collection Approach

A DBA has been undertaken to present a baseline condition for benthic ecology in **Sub-Section 3.3** of this Report. This DBA has utilised publicly available data, namely the GeMS¹³ dataset.

Additional site-specific benthic visual and grab sample surveys will be undertaken for the Proposed Development as part of the SEPA pre-application process. These surveys will be undertaken in line the latest SEPA guidance¹².

Visual images will be of a satisfactory resolution to enable the identification of habitats and species present within the survey area. In line with the SEPA guidance¹² the survey area will reflect the potential scale and direction of flows of organic material and in-feed residues from the Proposed Development. Survey design will be sufficiently flexible to enable the extent of any biogenic features detected to be fully assessed.

Benthic species and habitats identified through these surveys will be assessed and scoped in or out of detailed assessment as part of the EclA, this will be clearly presented within the EIAR.

3.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key benthic ecology stakeholders, primarily NS and SEPA, to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

3.5 Identified Potential Impacts

3.5.1 Zone of Influence

As defined by CIEEM⁹, the Zone of Influence (Zol) for a project is the area over which ecological features may be affected by biophysical changes as a result of the project and the associated impact pathways. This is likely to extend beyond the project, for example where there are ecological or hydrological links beyond the project boundary. The Zol is also likely to vary dependent on specific ecological feature sensitivity to a specific impact pathway. As such it is likely that the Proposed Development will give rise to multiple Zols. A summary of the impact pathways considered relevant to the Proposed Development, and the associated Zol for each impact pathway is provided in **Table 3.6**.

Table 3.6: Summary of the potential impact pathways and the associated Zol of the Proposed Development in relation to benthic ecology.

Potential Impact Pathway	Zone of Influence	
	Primary Zol (Spatial Extent of Impact)	Secondary Zol (Spatial Extent of Effect)
Increased sedimentation as a result of installing (decommissioning) the mooring system.	<p>The Primary Zol of this impact pathway is defined by the spatial extent of the dispersal of re-suspended material during the installation (decommissioning) of the mooring system.</p> <p>Due to the low impact nature of these works dispersal of re-</p>	Due to the sessile and low mobility nature of benthic features, the primary Zol also represents the spatial extent over which effects are likely. As such, for benthic features the primary and secondary Zol are determined to be the same.

Potential Impact Pathway	Zone of Influence	
	Primary Zol (Spatial Extent of Impact)	Secondary Zol (Spatial Extent of Effect)
	suspended material is predicted to be negligible.	
Organic material deposition as a result of the operation of the Proposed Development.	<p>The Zol of this impact pathway is defined by the spatial extent of the organic material NDM mixing zone.</p> <p>Organic Material Mixing Zone: 206,979 m².</p>	
In-feed residue deposition as a result of the operation of the Proposed Development.	<p>The Zol of this impact pathway is defined by the spatial extent of the in-feed residue NDM mixing zone.</p> <p>In-feed Residue Mixing Zone: 163,333 m².</p>	
Physical disturbance due to the mooring system of the Proposed Development.	<p>The Zol of this impact pathway is defined by the spatial extent of the grid and feed barge mooring system. Particularly the spatial extent of direct contact between the mooring lines and anchors and the seabed.</p> <p>At present a detailed mooring analysis is yet to be undertaken. As such, to represent the worse-case scenario the total spatial extent of the Development Area is considered to represent the Zol for this impact pathway.</p> <p>This Zol will be refined during the EIA process, and a specific Zol relating to the as modelling mooring system will be presented in the EIAR.</p>	

3.5.2 Important Ecological Features

In order to better focus the assessment of potential impacts on the ecological features within the EcIA, and to help determine whether an ecological feature qualifies as an IEF, a screening assessment has been undertaken to identify the distinct impact pathways most likely to result in significant effects on the ecological features. As IEFs are those features that are considered both important and potentially affected by the project, it is not necessary to carry out detailed assessment of features that are

sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

The screening assessment considered the behavioural sensitivity of each ecological feature to the identified impact pathways, the determined abundance and density of each ecological feature within the baseline condition, and the proposed embedded design and operational mitigation. Where impacts on an ecological feature were not predicted to be significant, that ecological feature was scoped out of further assessment. Where the determination of significant effect was uncertain, the precautionary principle was applied, and it is proposed that the feature is scoped in for further assessment.

Table 3.7 summarises the ecological features identified within the baseline condition, outlining whether or not each ecological feature has been classified as an IEF, with the rationale for the decision provided. The importance of the ecological features has been assessed on a project-specific basis.

Table 3.7: Summary of IEF screening assessment for benthic ecology.

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
Priority Marine Features (PMFs)	National	Local	Construction	Increased sedimentation as a result of installing the mooring system	Analysis of the GeMS dataset identified the presence of three broadscale PMF habitats within the WSA. The closest PMF to the Proposed Development is the broadscale PMF northern sea fan and sponge communities at 2.24 km to the west-southwest. Additionally, review of the visual survey data held for the original Morrison's Rock proposal identified the presence of an additional three broadscale PMFs not identified through the GeMS dataset. Of these three broadscale PMFs the closest was a single record of the northern sea fan and sponge communities PMF within the Development Area. Due to the locations of the PMFs, the short-term nature of the installation activities, and the predominant current direction, it is unlikely that increased sedimentation during the installation (and decommissioning) phase will result in significant effects.	Scoped Out	No
			Operation	Organic material deposition as a result of the operation of the Proposed Development		Scoped Out	
				In-feed residue deposition as a result of the operation of the Proposed Development		Scoped Out	
				Physical disturbance due to the mooring system of the Proposed Development		Scoped Out	
			Decommissioning	Increased sedimentation as a result of decommissioning the mooring system	All of the identified broadscale PMFs are located outwith the mixing zones of the Proposed Development and are therefore unlikely to be significantly impacted by organic material and in-feed residue deposition. Whilst there is a single record of the northern sea fan and sponge communities PMF within the Development Area it is unlikely to be impacted by abrasion / disturbance caused by the mooring system, as the anchors will not be located near this PMF. As such, the identified impact pathways are unlikely to result in anything other than insignificant effects.	Scoped Out	
Annex I Habitats	International	Local	Construction	Increased sedimentation as a result of installing the mooring system	Analysis of the GeMS dataset identified the presence of two undesignated Annex I habitat types within the WSA. These Annex I habitat types included; possible sandbanks which are slightly covered by seawater all the time and reefs. Both Annex I habitat types are located 2.24 km, to west-southwest, from the Proposed Development at the closest point. Additionally, review of the visual survey data held for the original Morrison's Rock proposal identified the presence of an additional 54 records of Annex I reef habitats not identified through the GeMS dataset. Due to the locations of the Annex I habitats, the short-term nature of the installation activities, and the predominant current direction, it is unlikely that increased sedimentation during the installation (and decommissioning) phase will result in significant effects.	Scoped Out	No
			Operation	Organic material deposition as a result of the operation of the Proposed Development		Scoped Out	
				In-feed residue deposition as a result of the operation of the Proposed Development		Scoped Out	
				Physical disturbance due to the mooring system of the Proposed Development		Scoped Out	
			Decommissioning	Increased sedimentation as a result of decommissioning the mooring system	All of the identified Annex I habitats are located outwith the mixing zones of the Proposed Development and are therefore unlikely to be significantly impacted by organic material and in-feed residue deposition. Whilst there are a number of records of Annex I habitats (CR.HCR.XFa, CR.MCR, and SS.SMx.CMx) within the Development Area, they are unlikely to be impacted by abrasion / disturbance caused by the mooring system, as the anchors will not be located within the immediate vicinity of the features. Due to the nature of anchor installation, which involves the placement and then tensioning of the anchor to ensure that it embeds in the substrata, any abrasion / displacement is likely to be limited to the initial installation phase and not repeated frequently. As such, the Annex I habitats are less likely to be significantly impacted by one off abrasion events in comparison to frequent repeatable abrasion events. As such, the identified impact pathways are unlikely to result in anything other than insignificant effects.	Scoped Out	

3.5.3 Summary of EIA Scope

Based upon the screening assessment undertaken within **Sub-Section 3.5**, it is proposed that no benthic ecology features identified within **Sub-Section 3.3** will be scoped in and brought forward for detailed assessment within the benthic ecology EcIA.

However, benthic species and habitats identified through the scheduled benthic baseline surveys will be assessed and scoped in or out of detailed assessment as part of the EcIA, this will be clearly presented within the EIAR.

4 Marine Water Quality

4.1 Introduction

This section of the Report identifies the marine water quality receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on marine water quality and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

4.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on marine water quality. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 4.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 4.5**.

Table 4.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevance
Development Location	<p>The selection of the development location is based on the principal of developing new farms in exposed, well flushed and open water areas.</p> <p>Due to the dispersion potential of the development location nutrient discharges from the Proposed Development are unlikely to have a significant influence on the surrounding sea area.</p>	<p>Nutrient Enhancement as a Result of Operation of the Proposed Development; and</p> <p>Discharge of fish health medicines into the water column.</p>
Optimised Feed Composition	<p>The amount of particulate faecal deposition and dissolved nutrient release is determined by the digestibility of the feed. Modern feeds are easily assimilated and provide good Feed Conversion Ratios (FCR). The lowering of FCRs has led to reduced waste inputs to the environment per unit production. The biological FCR for the farm will be budgeted at 1.15, where 1.15 kg of feed is required to produce 1 kg of harvested fish.</p> <p>This optimisation of feed composition and digestibility therefore helps to ensure efficient nutrient conversion, meaning that the amount of soluble nutrients released into the water column are reduced to negligible levels.</p>	Nutrient Enhancement as a Result of Operation of the Proposed Development.
Staff Training Programme	Farm staff will receive specific in-house training on feed, feeding, fish growth and development as part of the Marine Competency Framework.	Nutrient Enhancement as a Result of Operation of the Proposed Development.
SLMS	The Proposed Development will be operated in line with the SLMS. The SLMS provides an overarching framework of strategic principles under which sea lice will be managed across all BFS marine fish farms, including the preferred approach of non-medicinal fish health interventions.	Discharge of fish health medicines into the water column.
ISLM Plan	The Proposed Development will implement the ISLM Plan, which provides guidance on how the SLMS measures are to be implemented. The aim of the ISLM Plan is to actively reduce the use of medicinal products (which will reduce the amount potentially discharged from the Proposed Development).	Discharge of fish health medicines into the water column.
CAR Licence	<p>The CAR Licence for the Proposed Development will have conditions that set limits on the quantity of bath medicines that can be discharged over specific temporal periods from the Proposed Development. These limits relate to the discharge of specific quantities of active ingredient within each bath medicine.</p> <p>The limits are set based upon compliance to relevant environmental quality standards (EQS). EQSs are safe concentrations that have been set to be protective of all species in the environmental matrix where exposure is likely to be highest. Bath medicine quantities are modelled, via detailed marine modelling, to determine the maximum allowable concentration of each active ingredient that can be discharged from the Proposed Development whilst complying with all relevant EQSs.</p> <p>The Proposed Development will be operated in full compliance to the conditions of the CAR Licence.</p>	Discharge of fish health medicines into the water column.
Feeding Strategy	Feeding will be in accordance with established guides and staff will be able to adapt the feeding regime as necessary. This will reduce the potential for feed to be wasted.	Nutrient Enhancement as a Result of Operation of the Proposed Development.
Feed Control and Monitoring	Effective feed control and monitoring will reduce feed wastage and minimise the potential for unnecessary nutrient release from the Proposed Development.	Nutrient Enhancement as a Result of Operation of the Proposed Development.
Pellet Detection Software (Feeding Operations)	This software reduces the amount of excess feed being distributed to fish, which is anticipated to reduce potential organic deposition impacts on the benthos and unnecessary nutrient release from the Proposed Development.	Nutrient Enhancement as a Result of Operation of the Proposed Development.
Fallowing	At present, SEPA require that there is a minimum period of 28 consecutive days between every production cycle during which no commercial species shall be kept onsite. This will help avoid potential impacts for temporary periods.	Nutrient Enhancement as a Result of Operation of the Proposed Development.

4.3 Baseline Condition

4.3.1 Study Area

The Proposed Development is located within the Scotland River Basin District, specifically within the Flodaigh Beag to Rubha Roiseal coastal waterbody (ID: 200479). In total the Flodaigh Beag to Rubha Roiseal coastal waterbody is 153.50 km² in area¹⁷. Therefore, to focus the assessment, a study area of 10 km² around the Proposed Development has been defined. This study area is based upon the SEPA definition in depositional modelling that unconstrained water systems should be limited to a 10 km² box. However, due to the Proposed Development's location close to the western boundary of the waterbody, 1.15 km² of the study area overlaps with the neighbouring Grimsay and Ronay coastal waterbody (ID: 200477)¹⁸.

4.3.2 Marine Waterbody Characteristics

In regard to the Flodaigh Beag to Rubha Roiseal waterbody, the Water Framework Directive (WFD) classification scheme assigned an overall status and overall ecological status of 'High' in 2022. This 'High' classification has been maintained since 2015 for both parameters. The Dissolved Inorganic Nitrogen (DIN) status of the waterbody has been classified as 'High' since 2008, which indicates that the waterbody has conditions that are associated with no, or very low, anthropogenic pressure, despite the presence of three marine open pen fish farms (Maragay Mor, Maaey and Greanamul) within the waterbody since 2013 (Greamamul).

The Grimsay and Ronay waterbody has maintained an overall status and an overall ecological status of 'High' since 2007.

The 'Authorisation of marine fish farms in Scottish waters: locational guidelines'¹⁹ published by the SGMD, categorise coastal waterbodies based on model calculated indices to predict nutrient enrichment and percentage areas of seabed degraded by organic carbon deposition. Based on the outputs of both the nutrient and benthic models, an index from 0 to 5 is assigned to each waterbody for both modelled variables (nutrient enhancement and benthic impact). The two indices for each waterbody are then added together to give a simple combined index for each waterbody. The resultant single index, scaled from 0 to 10, therefore provides an indication of the relative sensitivity of a waterbody for further fish farm development. Waterbodies with the highest combined index value are considered most sensitive to the expansion of fish farming operations and as such are classified as Category 1 areas.

The Flodaigh Beag to Rubha Roiseal and the Grimsay and Ronay waterbody are both uncategorised for both nutrient enhancement and benthic impact indices, by the locational guidelines¹⁹, and the Flodaigh Beag to Rubha Roiseal waterbody is considered to be open and unrestricted in nature. This indicates that the waterbody has a low sensitivity to further aquaculture development.

4.4 Proposed Approach to the Environmental Impact Assessment

The marine water quality EIA will follow the standard assessment methodology outlined in **Sub-Section 2.2**. In addition, the following principal guidance documents will be considered:

- SGMD: Authorisation of marine fish farms in Scottish waters: locational guidelines¹⁹.

¹⁷ SEPA. Water Classification Hub. Flodaigh Beag to Rubha Roiseal (ID: 200479). [Online] Available at: <https://www.sepa.org.uk/data-visualisation/water-classification-hub/>

¹⁸ SEPA. Water Classification Hub. Grimsay and Ronay (ID: 200477). [Online] Available at: <https://www.sepa.org.uk/data-visualisation/water-classification-hub/>

¹⁹ SGMD. Authorisation of marine fish farms in Scottish waters: locational guidelines. Last updated 17 April 2024. [Online] Available at: <https://www.gov.scot/publications/authorisation-of-marine-fish-farms-in-scottish-waters-locational-guidelines/>

4.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to determine the marine water quality baseline condition within this Report. It is determined that no additional analysis is required to further detail the marine water quality baseline condition.

Data identified and utilised for analysis within this Report is presented in **Table 4.2**.

Table 4.2: Key publicly available data sources for the marine water quality baseline condition.

Source	Summary	Spatial Coverage
SEPA Water Classification Hub.	Spatial data for all bodies of surface waters with information available on waterbody status.	Full coverage of the study area.
SGMD Authorisation of marine fish farms in Scottish waters: locational guidelines. Last updated 17 April 2024.	Spatial data on the Category 1, 2 and 3 areas for the Scottish Government Locational Guidelines, designated on the basis of predictive modelling to estimate nutrient enhancement and benthic impact in sea lochs or similar waterbodies supporting aquaculture.	Full coverage of the study area.
Classified Shellfish Harvesting Areas Food Standards Scotland (FSS) - January 2024	Spatial data displaying the locations of classified shellfish harvesting areas within Scotland. Live bivalve molluscs (LBMs) harvesting areas are classified by monitoring the levels of <i>Escherichia coli</i> in shellfish flesh.	Full coverage of the study area.
Aquaculture - Shellfish waters protected areas (SEPA Web Map Service (WMS))	Spatial data displaying the locations of shellfish growing waters designated in line with the Shellfish Waters Directive (2006/113/EC) by Scottish Government under The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013.	Full coverage of the study area.

4.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key marine water quality stakeholders, primarily SEPA, to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

4.5 Identified Potential Impacts

A range of potential impacts on marine water quality have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts are outlined in **Table 4.3**, along with the scoping determination and rationale.

Table 4.3: Scoping determination and rationale for potential impacts on marine water quality.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Flodaigh Beag to Rubha Roiseal waterbody (ID: 200479); and Grimsay and Ronay waterbody (ID: 200477).	Construction	Increased suspension of sediments due to construction and installation activity	<p>All heavy construction will take place offsite, at the manufacturer's onshore facility. Works onsite will be limited to installation activities.</p> <p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.</p> <p>Installation activities will be primarily limited to the setting of the mooring lines and anchors, as such limited sediments are likely to be suspended within the water column.</p> <p>As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out
	Operation	Discharge of fish health medicines into the water column	<p>Fish health medicines will likely make up a reduced part of the overall fish health intervention strategy at the Proposed Development. Moreover, all discharges of fish health medicines will be in strict accordance with the quantities stipulated within the CAR Licence. Moreover, SEPA will refuse to grant an authorisation for proposed discharges of bath medicines where:</p> <ul style="list-style-type: none"> The environmental standards would not be met; or An insufficiently diluted plume is likely to interact with, and pose a risk to the conservation status of, protected species or habitats; or adversely affect the interests of other users of the marine environment. <p>A detailed Marine Modelling Report will be submitted in support of the planning application, clearly outlining compliance to the relevant EQSs.</p> <p>As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out
		Discharge of fish waste and uneaten feed, with the potential to cause nutrient enhancement	<p>In well flushed coastal waterbodies, such as the Flodaigh Beag to Rubha Roiseal coastal waterbody (ID: 200479), nitrogen concentrations appear to be the primary driver of eutrophication²⁰, as such there is the potential for input of nitrogen compounds, from the Proposed Development, to result in negative effects on water quality.</p> <p>However, as detailed in Sub-Section 4.3, the Proposed Development will be located in an uncategorised¹⁹ open and unrestricted waterbody (Flodaigh Beag to Rubha Roiseal coastal waterbody (ID: 200479)). Due to this receiving waterbody, having a classification of 'High' for its overall status, overall ecology, and DIN, in combination with its open and unrestricted exchange with the adjoining waterbodies to the east, it is determined that the Flodaigh Beag to Rubha Roiseal coastal waterbody has a low sensitivity to nitrogen compound enhancement. The closest categorised waterbody¹⁹ is the Uiskevagh waterbody located 2.41 km to the southwest of the Proposed Development. This waterbody is a Category 2 waterbody and therefore is less sensitive than Category 1 waterbodies to further aquaculture development. The closest Category 1 (most sensitive to further aquaculture development) waterbody is the Meanervagh waterbody located 3.31 km to the southwest of the Proposed Development.</p> <p>As detailed in Sub-Section 4.2, BFS is proposing to embed a number of design and operational mitigation measures into the Proposed Development to avoid or reduce nutrient enhancement impacts. These measures are primarily aimed at reducing the discharge of nitrogen compounds into the receiving waterbody, by ensuring a highly digestible feed formulation and by reducing feed wastage through effective monitoring and management systems.</p> <p>BFS has undertaken Equilibrium Concentration Enhancement (ECE) calculations (Appendix G) to help demonstrate the negligible impact of potential nutrient enhancement from the Proposed Development. The calculations, which assumed a maximum biomass of 5,050 T and an FCR of 1.17, which is higher than the maximum FCR the Proposed Development will be farmed to (Sub-Section 4.2), predict that the Proposed Development will result in the discharge of 3.69 µg/L⁻¹. This represents 2.20 % of the 168 µg/L⁻¹ DIN background level, and therefore the nitrogen enhancement from the Proposed Development does not breach the 50 % of background levels threshold defined by the United Kingdom Technical Advisory Group (UKTAG).</p> <p>Therefore, this scoping assessment has determined that potential nutrient enhancement impacts, as a result of the operation of the Proposed Development, would be negligible, and can therefore be scoped out of further assessment.</p>	Scoped Out

²⁰ Vigouroux, G., Kari, E., Beltrán-Abaunza, J.M., Uotila, P., Yuan, D. and Destouni, G., 2021. Trend correlations for coastal eutrophication and its main local and whole-sea drivers—Application to the Baltic Sea. Science of the Total Environment, 779, p.146367. [Online] Available at: <https://www.sciencedirect.com/science/article/pii/S0048969721014352>

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
	Decommissioning	Increased suspension of sediments due to the removal of mooring system infrastructure	<p>Decommissioning activities with the potential to result in increased suspension of sediments are likely to be short-term and temporary in nature.</p> <p>The removal of the mooring infrastructure, in particular the mooring anchors from the seabed is considered a low impact activity likely to result in negligible levels of sediment suspension.</p> <p>As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out

4.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 4.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 4.2** is unlikely to have significant effects on the marine water quality receptors identified within the study area. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 4.2**. As such, embedded mitigation measures for marine water quality will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 4.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 4.5** further assessment will be undertaken and presented within the EIAR.

5 Marine Mammals and Other Marine Megafauna

5.1 Introduction

This section of the Report identifies the marine mammal and other marine megafauna receptors of relevance to the Proposed Development. This section identifies and describes the potential impacts and effects from the construction, operation, and decommissioning of the Proposed Development on the identified marine mammal and other marine megafauna receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

5.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on marine mammal and other marine megafauna receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 5.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 5.5**.

Table 5.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevant Impact Pathway(s)
Development Location	The dispersion potential of the development location will allow for organic material and in-feed residue discharges to be dispersed to low levels over a wide area.	Loss of, or damage to, prey-supporting habitats
NewDEPOMOD (NDM) Modelling	NDM modelling for the Proposed Development has been undertaken for both organic and in-feed residue deposition. The outputs indicate compliance to SEPA regulatory criteria. The NDM Modelling Report is provided as Appendix B .	
Farm Design and Layout	The Proposed Development will make use of a small number of larger pens. This will help limit the spatial extent of the Proposed Development in relation to the seabed and benthic environment.	
SEPA CAR Licence	SEPA regulates discharges from finfish farms by issuing permits (CAR Licences) that limit the levels of pollutants that farms can discharge to the water environment. Specifically, SEPA regulate discharges of organic matter, medicine residues and other chemicals and sea lice interactions between farmed and wild salmonids. CAR Licences have a number of conditions which limit discharges from farms. The Proposed Development will be operated in full compliance with the CAR Licence, once granted.	
Environmental Quality Standards (EQS)	Discharge limits for the Proposed Development represent discharge quantities that have been modelled and show full compliance to the relevant EQSs.	
Feed Control and Monitoring	Effective feed control and monitoring will reduce feed wastage and minimise the potential for organic deposition beneath the Proposed Development.	
Pellet Detection Software	This software reduces the amount of excess feed being distributed to fish, which is anticipated to reduce potential organic deposition impacts on the benthos.	
Fallowing	At present, SEPA require that there is a minimum period of 28 consecutive days between every production cycle during which no commercial species shall be kept onsite. This will help avoid potential impacts for temporary periods.	
Enforcement	Through the Water Environment (Controlled Activities) (Scotland) Regulations 2011, SEPA has enforcement powers to decrease the maximum biomass if a fish farm is deemed to continuously not comply with benthic quality standards.	
Environmental Monitoring Plan	A draft Environmental Monitoring Plan will be developed and submitted to SEPA in support of the CAR Licence application. SEPA will determine the finalised Environmental Monitoring Plan, and this will be attached as an enforceable condition to the CAR Licence.	
Containment Net Strategy	High rigidity primary containment nets will be installed at the Proposed Development, these nets will also be correctly tensioned via a sinker tube system. This will avoid and / or reduce the potential for entanglement and entrapment.	Entanglement in fish farm infrastructure, with the potential to cause injury or mortality
Draft Vessel Management Plan (dVMP)	To ensure best practice in terms of marine vessel management associated with the Proposed Development, all primary service vessels will be operated in line with the dVMP (Appendix E). Additionally, all secondary service vessels will be expected to operate in line with the Scottish Marine Wildlife Watching Code (SMWWC). The dVMP details general vessel management protocols, as well as specific protocols relating to cetacean and seabird activity. These protocols are designed to avoid or reduce the potential interactions between marine vessels and cetacean and seabirds.	Marine vessel activity, with the potential to cause disturbance, injury or mortality; and Underwater noise, with the potential to cause disturbance and exclusion.
Acoustic Deterrent Devices (ADDs)	BFS will not use ADDs as standard practice at the Proposed Development. In circumstances of exceptional welfare concern for stocked fish, BFS will consult with NS, the LPA, and the MD-LOT to discuss how best to proceed and to obtain approval for any ADD use. It is likely that a European Protected Species (EPS) licence will be required for all currently available ADDs and this can be applied for via the MD-LOT who will consult with NS on any applications.	Underwater noise, with the potential to cause disturbance and exclusion.
Anti-Predator Nets	BFS will not use anti-predator nets as a standard measure at the Proposed Development. In circumstances of exceptional welfare concern for stocked fish, BFS will consult with NS and the LPA on the feasibility and potential for use of anti-predator nets at the Proposed Development.	Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.
Best Practice Husbandry Procedures	The presence of mortalities building up at the base of pens is a known attractant to seal species. Therefore, an effective daily mortality removal procedure will be implemented, this is anticipated to reduce the potential for interaction with seal species.	Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.
Draft Predator Control Plan (dPCP)	The dPCP for the Proposed Development (Appendix D) outlines the adaptive management measures in place to mitigate against interactions with predatory species, including seals.	Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.

Embedded Mitigation Measure	Description	Relevant Impact Pathway(s)
Monitoring and Reporting		
Wildlife Logbook Monitoring	The Proposed Development will keep a logbook of all wildlife noted in the vicinity. This will include a comment on the interaction type, e.g., distant sighting, or direct interaction with fish farm infrastructure. This wildlife logbook will help understand patterns in species utilisation of the area over time.	All Impact Pathways (see Sub-Section 5.5.1).
Environmental Monitoring Plan	A draft Environmental Monitoring Plan will be developed and submitted to SEPA as part of the CAR Licence pre-application process. SEPA will determine the finalised Environmental Monitoring Plan, and this will be attached as an enforceable condition to the CAR Licence.	Loss of, or damage to, prey-supporting habitats.

5.3 Baseline Condition

5.3.1 Study Area

Two study areas have been identified for determining the baseline condition of marine mammals and other marine megafauna, as illustrated in **Figure 5.1**.

The Wider Study Area (WSA) is defined as the spatial extent of the Development Area in addition to a 100 km radius buffer zone. The 100 km distance is based upon the mean foraging range of grey seals, as they have the larger foraging range of the two UK resident seal species. Cetaceans and other marine megafauna, principally basking sharks, are highly mobile, and have extensive foraging ranges that may overlap with the WSA. As such, the 100 km radius search distance is considered appropriate for these wide-ranging species.

The Detailed Study Area (DSA) is defined as the Development Area in addition to a 30 km radius buffer. The DSA is designed to provide context to the WSA and identify local densities of each species and therefore help to determine the importance of the area immediate to the Proposed Development to marine mammal and other megafauna features.

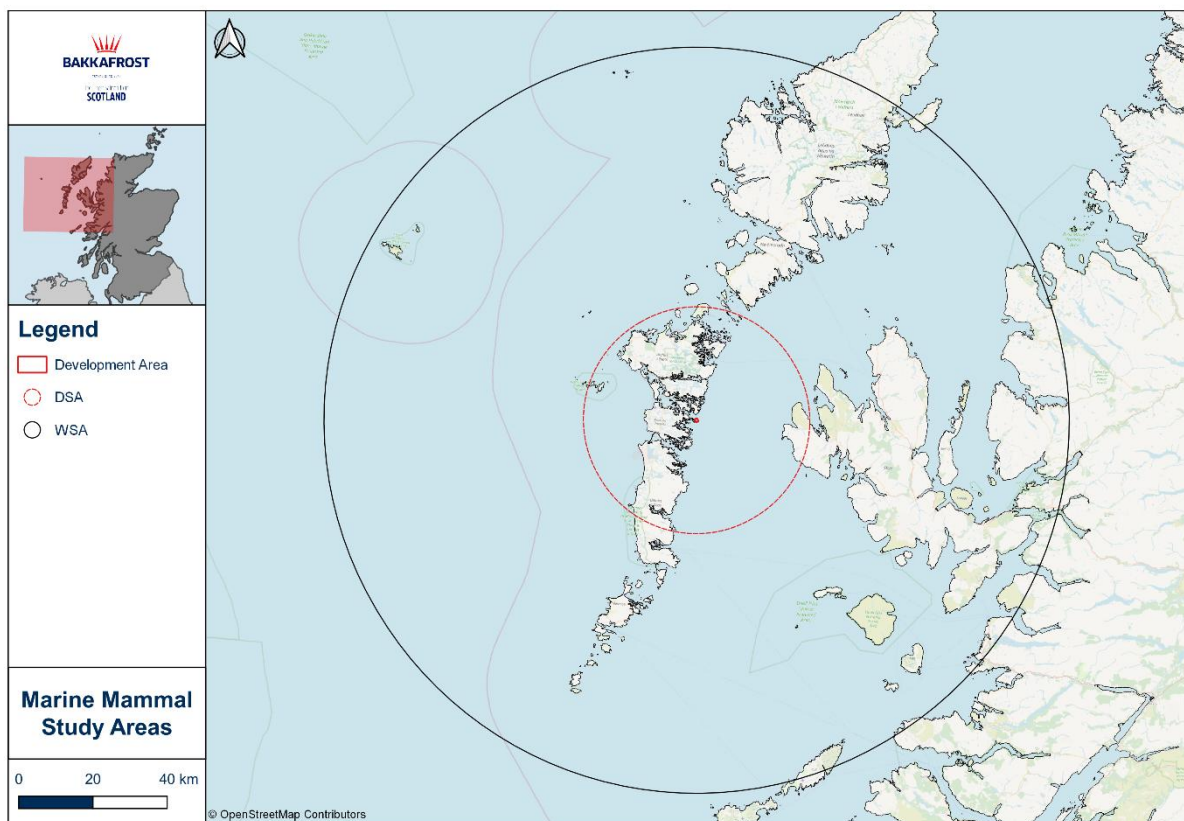


Figure 5.1: Marine mammal and other marine megafauna study areas.

5.3.2 Designated Sites

5.3.2.1 European Sites

Full consideration of the potential connectivity between the Proposed Development and European Sites (Special Protection Areas (SPAs), SACs, and Ramsar sites) is provided within the shadow HRA Screening Report (**Appendix F**).

Although the shadow HRA Screening Report (**Appendix F**) is separate from the requirements of EIA, the European Site screening assessment carried out is also considered to be appropriate in terms of identifying potential connectivity between European Sites and the Proposed Development under the EIA process. The screening assessment identified six SACs with marine mammal qualifying features that have potential connectivity with the Proposed Development. These European Sites are detailed in **Table 5.2**. However, the screening assessment determined that the Proposed Development is unlikely to result in Likely Significant Effect (LSE) of the six identified SACs. As such, it is determined that, under the requirements of the EIA process, the Proposed Development is unlikely to result in significant effects on the identified SACs. Therefore, it is proposed that these SACs be scoped out of further assessment under the EIA Regulations.

Table 5.2: Summary of European Sites with marine mammal qualifying features.

Site Name	Relevant Qualifying Features	Distance from the Proposed Development (Straight Line) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
Monach Islands SAC	Grey seal (<i>Halichoerus grypus</i>)	23.69	West (78°W)
Sound of Barra SAC	Common seal (<i>Phoca vitulina</i>)	38.60	South-southwest (169°W)
Ascrib, Isay and Dunvegan SAC	Common seal (<i>Phoca vitulina</i>)	30.19	East (82°E)
Inner Hebrides and the Minches SAC	Harbour porpoise (<i>Phocoena phocoena</i>)	0.17	East (103°E)
Skerries and Causeway SAC	Harbour porpoise (<i>Phocoena phocoena</i>)	244.10	South-southeast (171°E)

5.3.2.2 National Sites

5.3.2.2.1 Nature Conservation Marine Protected Areas

Under Section 83 of the Marine (Scotland) Act 2010, where developments have the potential to impact, other than insignificantly, the protected features of a NCMPA, the LPA must notify the Scottish Ministers and NS and take into account their guidance and advice prior to making a determination on the development proposal. A summary of the identified NCMPAs, with marine mammal and / or other marine megafauna qualifying features, is presented in **Table 5.3**.

Table 5.3: Summary of NCMPAs identified within the WSA.

Site Name	Relevant Qualifying Features	Distance from the Proposed Development (Straight Line) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
Sea of the Hebrides NC MPA	Basking shark (<i>Cetorhinus maximus</i>)	1.43	East-southeast (100°E)

Site Name	Relevant Qualifying Features	Distance from the Proposed Development (Straight Line) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
	and minke whale (<i>Balaenoptera acutorostrata</i>)		
North-east Lewis NC MPA	Risso's dolphin (<i>Grampus griseus</i>)	85.67	Northeast (34°E)
Red Rocks and Longay NC MPA	Flapper skate (<i>Dipturus intermedius</i>)	72.17	East-southeast (100°E)

5.3.2.2.2 Sites of Special Scientific Interest

Sites of Special Scientific Interest (SSSIs) are a statutory designation made by NatureScot under the Nature Conservation (Scotland) Act 2004. Under Section 3 of the Nature Conservation (Scotland) Act 2004, NatureScot has a duty to notify as SSSIs, areas that they consider to be of special interest for their flora and fauna, geology or geomorphology. Within the WSA, three SSSIs were identified that are notified for marine mammal features. These are detailed in **Table 5.4**.

Table 5.4: Summary of SSSIs identified within the WSA.

Site Name	Relevant Qualifying Features	Distance from the Proposed Development (Straight Line) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
Kinloch and Kyleakin Hills (Monadh Chaol Acainn is Cheann Loch)	European otter (<i>Lutra lutra</i>)	84.13	(105°E)
Loch an Duin	European otter (<i>Lutra lutra</i>)	15.86	(9°E)
Small Seal Islands	Grey seal (<i>Halichoerus grypus</i>)	29.12	(57°W)

5.3.2.2.3 Designated Seal Haul Out Sites

Under Section 117 of the Marine (Scotland) Act 2010, Scottish Ministers are permitted to designate specific seal haul out sites (HOSs) to provide additional protection for seals from intentional or reckless harassment. HOSs are locations on land where seals come ashore to rest, moult, or breed. On 30 September 2014, a total of 194 HOSs, including key breeding sites, were designated through The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014²¹.

5.3.2.2.3.1 Common Seal HOSs

When not at sea, common seal are typically found around sheltered shores and estuaries, where they often haul out on sandbanks and beaches. Common seal are known to predominantly forage within 40 to 50 km of their HOS. As such, the DBA focused on identifying common seal HOSs within a 50 km radius of the Proposed Development.

²¹ Scottish Government: The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014. [Online] Available at: <https://www.legislation.gov.uk/ssi/2014/185/contents/made>

Based on these search parameters the HOSs listed within **Table 5.5** were identified. Distances between the Proposed Development and the HOSs were determined using straight line distances (nearest point of Development Area to nearest point of HOS). However, where straight line distances crossed significant portions of land, at-sea distances were also examined to determine if connectivity between the HOSs and the Proposed Development was still likely based on a 50 km at-sea distance (foraging range). HOSs that were examined for at-sea distances have the at-sea distance provided in brackets in the table column "Distance from the Proposed Development – Straight Line Distance (At-Sea Distance) (km)".

Table 5.5: Summary of common seal HOSs within 50 km of the Proposed Development.

HOS Name	HOS Category	HOS Code	Management Area	Primary Seal Species	Distance from the Proposed Development – Straight Line Distance (At-Sea Distance) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
Askernish Skerries South	Seal Haul Out	WI-014	Western Isles	Harbour/common and grey seals	33.68	South-southwest (153°W)
Flodda	Seal Haul Out	WI-010	Western Isles	Harbour/common seals	3.67	Northwest (70°W)
Gairbh-Eilean Ronaigh	Seal Haul Out	WI-007	Western Isles	Harbour/common seals	3.37	North-northwest (28°W)
Inner Bagh nam Faoileann & Loch Chill Eireabhaigh	Seal Haul Out	WI-005	Western Isles	Harbour/common seals	6.43	Southwest (131°W)
Inner Loch Eynort	Seal Haul Out	WI-003	Western Isles	Harbour/common seals	24.53	South-southwest (165°W)
Inner Loch Maddy	Seal Haul Out	WI-001	Western Isles	Harbour/common seals	17.31	North (5°W)
Loch a' Bhaigh	Seal Haul Out	WI-009	Western Isles	Harbour/common seals	26.39	North (5°W)
Loch Langais	Seal Haul Out	WI-006	Western Isles	Harbour/common seals	11.49	Northwest (30°W)
Luib Bhan	Seal Haul Out	WI-008	Western Isles	Harbour/common seals	9.67	West-southwest (114°W)
Oronsay (N Uist)	Seal Haul Out	WI-002	Western Isles	Harbour/common seals	21.95	North-northwest (19°W)
Rubha Bholuim	Seal Haul Out	WI-013	Western Isles	Harbour/common seals	24.13	South-southwest (169°W)

5.3.2.2.3.2 Grey Seal HOSs

Grey seal preferentially come ashore on exposed coasts and islands. They also predominantly forage within 100 km of their HOS. As such, the DBA focused on identifying grey seal HOSs within the full extent of the WSA (100 km radius from the Proposed Development).

Based on these search parameters the HOSs listed within **Table 5.6** were identified. Distances between the Proposed Development and the HOSs were determined using straight line distances (nearest point of Development Area to nearest point of HOS). However, where straight line distances crossed significant portions of land, at-sea distances were also examined to determine if connectivity between the HOSs and the Proposed Development was still likely based on a 100 km at-sea distance (foraging range). HOSs that were examined for at-sea distances have the at-sea distance provided in brackets in the table column “Distance from the Proposed Development – Straight Line Distance (At-Sea Distance) (km)”.

Table 5.6: Summary of grey seal HOSs within 100 km of the Proposed Development.

HOS Name	HOS Category	HOS Code	Management Area	Primary Seal Species	Distance from the Proposed Development – Straight Line Distance (At-Sea Distance) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
Aird Ghrein & Sgeir Liath	Seal Haul Out	WI-011	Western Isles	Harbour/common and grey seals	52.68	South-southwest (158°W)
Askernish Skerries South	Seal Haul Out	WI-014	Western Isles	Harbour/common and grey seals	33.68	South-southwest (153°W)
Berneray	Breeding Colony Seal Haul Out	BC-010	Western Isles	Grey seals	78.20	South-southwest (160°W)
Cairns of Coll	Seal Haul Out	WSS-001	West Scotland - South	Harbour/common and grey seals	93.30	South-southeast (151°E)
Causamul	Breeding Colony Seal Haul Out	BC-015	Western Isles	Grey seals	28.95 (29.38)	Northwest (57°W)
Coppay	Breeding Colony Seal Haul Out	BC-012	Western Isles	Grey seals	40.51 (44.25)	North (0.13°E)
Fladda-chuain	Seal Haul Out	WSC-008	West Scotland - Central	Harbour/common and grey seals	53.61	Northeast (56°E)
Gasker	Seal Haul Out	WI-018	Western Isles	Grey seals	57.09 (61.50)	North (6°W)
Haskeir	Breeding Colony Seal Haul Out	BC-014	Western Isles	Grey seals	39.90 (41.55)	Northwest (47°W)
Hyskeir	Seal Haul Out	WSC-005	West Scotland - Central	Harbour/common and grey seals	60.51	Southeast (150°E)
Mingulay	Breeding Colony Seal Haul Out	BC-011	Western Isles	Grey seals	75.79	South-southwest (159°W)
Pabbay	Breeding Colony Seal Haul Out	BC-008	Western Isles	Grey seals	69.75	South-southwest (160°W)
Sandray	Breeding Colony Seal Haul Out	BC-013	Western Isles	Grey seals	64.74	South-southwest (160°W)
Sgeir a' Phuirt	Seal Haul Out	WSC-007	West Scotland - Central	Harbour/common and grey seals	60.70	Southeast (137°E)
Sgeir nam Maol	Seal Haul Out	WSC-010	West Scotland - Central	Grey seals	57.03	Northeast (55°E)
Shillay (SoH)	Breeding Colony Seal Haul Out	BC-007	Western Isles	Grey seals	37.58 (46.42)	North (8°W)
Sound of Harris Islands	Breeding Colony Seal Haul Out	BC-009	Western Isles	Grey seals	26.49	North-northeast (20°E)
SW Rum	Seal Haul Out	WSC-009	West Scotland - Central	Grey seals	73.17	Southeast (138°E)
Trodday	Breeding Colony Seal Haul Out	BC-005	West Scotland - Central	Grey seals	59.45	Northeast (59°E)
W Canna	Seal Haul Out	WSC-006	West Scotland - Central	Harbour/common and grey seals	55.46	South-southeast (143°E)

5.3.3 Pinnipeds

5.3.3.1 Biological Records

The initial DBA identified both common and grey seal within the DSA. **Table 5.7** provides a summary of the records along with detail on the data sources that have been reviewed. The review of biological records has focused on the DSA, as the spatial extent of the DSA is considered appropriate to indicate the likely presence and abundance of pinnipeds that may interact with the Proposed Development.

Table 5.7: Summary of pinniped records within the DSA.

Common Name	Scientific Name	Species Count	Number of Records	Date	Data Source
Common seal	<i>Phoca vitulina</i>	5,137	64	1996 – 1997, 2000 – 2006, 2007 – 2009, 2011 – 2015, 2016 – 2019.	GeMS*
		100	68	1970, 1981, 1983, 1997, 1998, 1999, 2003, 2004, 2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023.	NBN**
Grey seal	<i>Halichoerus grypus</i>	8,830	66	1996 – 1997, 2000 – 2006, 2007 – 2009, 2011 – 2015, 2016 – 2019.	GeMS
		100	80	1969, 1970, 1981, 2000, 2012, 2016, 2017, 2018, 2019, 2020, 2021, 2022.	NBN

* GeMS species count, from common and grey seal, provides a count value per 10 km²; and

**Not all NBN records contain data on species count. As such, where a record did not contain species count data, a species count of one is applied. I.e., one record will have a species count of one.

5.3.4 Cetaceans

Scottish waters are known to support more than twenty species of cetacean. However, NS state that there are seven primary cetacean species that are relatively common around the coasts of Scotland²². These species include:

- Bottlenose dolphin (*Tursiops truncatus*);

²² NatureScot: Dolphins, whales and porpoises. [Online] Available at: <https://www.nature.scot/plants-animals-and-fungi/mammals/marine-mammals/dolphins-whales-and-porpoises>

- Harbour porpoise (*Phocoena phocoena*);
- Minke whale (*Balaenoptera acutorostrata*);
- White-beaked dolphin (*Lagenorhynchus albirostris*);
- Risso's dolphin (*Grampus griseus*);
- Short-beaked common dolphin (*Delphinus delphis*); and
- Orca (*Orcinus orca*).

The DBA undertaken for this Report sought to determine the relative abundance and density, and therefore the importance of the DSA and WSA to these common cetacean species, in order to focus the assessment of cetacean species likely to be present within the vicinity of the Proposed Development.

5.3.4.1 Biological Records

The initial DBA identified all seven of the common cetacean species within the DSA. **Table 5.8** provides a summary of the records along with detail on the data sources that have been reviewed. The review of biological records has focused on the DSA, as the spatial extent of the DSA is considered appropriate to indicate the likely presence and abundance of cetaceans that may interact with the Proposed Development.

Table 5.8: Summary of cetacean records within the DSA.

Common Name	Scientific Name	Species Count	Number of Records	Date	Data Source
Bottlenose dolphin	<i>Tursiops truncatus</i>	66	18	2001, 2012, 2013, 2016, 2017, 2018, 2019, 2020, 2022, 2023.	NBN*
Harbour porpoise	<i>Phocoena phocoena</i>	105	56	2001, 2002, 2005, 2011, 2012, 2013, 2014,	NBN
Minke whale	<i>Balaenoptera acutorostrata</i>	32	28	2002, 2005, 2009, 2013, 2014, 2015, 2016, 2017, 2019, 2020, 2022, 2023.	NBN
White-beaked dolphin	<i>Lagenorhynchus albirostris</i>	3	3	2017, 2018, 2020.	NBN
Risso's dolphin	<i>Grampus griseus</i>	9	7	2005, 2013, 2015, 2017, 2019	NBN
Short-beaked common dolphin	<i>Delphinus delphis</i>	265	48	2008, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022.	NBN
Orca	<i>Orcinus orca</i>	6	3	2013, 2014, 2015.	NBN

* Not all NBN records contain data on species count. As such, where a record did not contain species count data, a species count of one is applied. I.e., one record will have a species count of one.

5.3.5 Other Marine Megafauna

5.3.5.1 Basking Shark

5.3.5.1.1 Biological Records

The initial DBA identified basking shark within the DSA. **Table 5.9** provides a summary of the records along with detail on the data sources that have been reviewed. The review of biological records has focused on the DSA, as the spatial extent of the DSA is considered appropriate to indicate the likely presence and abundance of basking shark that may interact with the Proposed Development.

Table 5.9: Summary of basking shark records within the DSA.

Common Name	Scientific Name	Species Count	Number of Records	Date	Data Source
Basking shark	<i>Cetorhinus maximus</i>	2	2	2010.	GeMS
		9	9	2006, 2008, 2009, 2016, 2018, 2021.	NBN*

* Not all NBN records contain data on species count. As such, where a record did not contain species count data, a species count of one is applied. I.e., one record will have a species count of one.

5.3.5.2 European Otter

5.3.5.2.1 Biological Records

The initial DBA identified European otter within the DSA. **Table 5.10** provides a summary of the records along with detail on the data sources that have been reviewed. The review of biological records has focused on the DSA, as the spatial extent of the DSA is considered appropriate to indicate the likely presence and abundance of European otter that may interact with the Proposed Development.

Table 5.10: Summary of European otter records within the DSA.

Common Name	Scientific Name	Species Count	Number of Records	Date	Data Source
European otter	<i>Lutra lutra</i>	374	308	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023.	NBN*

* Not all NBN records contain data on species count. As such, where a record did not contain species count data, a species count of one is applied. I.e., one record will have a species count of one.

5.4 Proposed Approach to the Environmental Impact Assessment

The marine mammal and other marine megafauna EclA will follow the EclA methodology outlined in **Sub-Section 2.2.2.3**. Where possible, the sensitivity of specific receptors will be defined through review of the Marine Evidence-based Sensitivity Assessment¹⁵ (MarESA) framework, the Feature Activity Sensitivity Tool¹⁶ (FeAST), grey literature (i.e., EIARs for other developments), and scientific literature.

In addition, the following legislation, policy, and guidance will be considered:

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna ('The Habitats Directive');
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ('The Habitats Regulations');
- Nature Conservation (Scotland) Act 2004;
- Marine (Scotland) Act 2010;
- The Protection of Seals (Designation of Haul-Out Sites) (Scotland) Order 2014;
- Wildlife and Countryside Act 1981;
- Scottish Biodiversity List;
- Scottish Priority Marine Features; and
- CIEEM: Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.

5.4.1 Data Collection Approach

A DBA has been undertaken to present a baseline condition for marine mammals and other marine megafauna in **Sub-Section 5.3** of this Report. This baseline condition has presented abundance and density data for the receptors identified within the study areas. The 100 km radius WSA has enabled the identification of designated sites, including HOSs. The 30 km radius DSA is considered appropriate to indicate the likely presence and abundance / density of marine mammal and other marine megafauna receptors that may interact with the Proposed Development.

It is proposed that within the EclA, the baseline condition will be developed and further refined for the receptors that have been identified as Important Ecological Features (IEFs) (see **Sub-Section 5.5**).

Data identified and used for the baseline condition within this Report and scheduled for use in the determination of the EclA baseline condition is presented in **Table 5.11**.

Table 5.11: Key publicly available data sources for the marine mammals and other marine megafauna EclA baseline condition.

Source	Summary	Spatial Coverage of Proposed Development
NS SiteLink	SiteLink provides easy access to data and information on protected areas across Scotland ranging from sites of local natural heritage to designations of national and international importance.	Full coverage of the WSA and DSA.
National Marine Plan interactive (NMPi): Designated haul-out sites for seals (Protection of Seals Orders)	Seal haul-out sites (HOSs) are designated under Section 117 of Marine (Scotland) Act 2010. Seal haul-outs are locations on land where seals come ashore to rest, moult or breed. This resource provides spatial data on the locations of HOSs around Scotland's coast.	Full coverage of the WSA and DSA.
Aggregated annual effort related Basking shark sightings per kilometre (Hebridean Whale and Dolphin Trust (HWDT) Effort Related Sightings data 2003 to 2011)	Spatial data showing the aggregated annual effort related basking shark sightings per km.	Full coverage of the WSA and DSA.
Observed adjusted densities of Basking shark all seasons 2000 to 2012	Spatial data showing the observed densities of basking shark on a 5 km x 5 km grid.	Full coverage of the WSA and DSA.
Modelled persistence of above mean density of Basking shark summers 2001 to 2012	Spatial data showing areas of persistent densities above mean density for Scottish territorial waters. Data are presented on a 5 km x 5 km grid.	Full coverage of the WSA and DSA.
Annual distribution and relative abundance of Bottlenose dolphin (1979 - 1997)	Spatial data showing the distribution and relative abundance of bottlenose dolphin. Data are presented on a quarter International Council for the Exploration of the Sea (ICES) rectangle grid.	Full coverage of the WSA and DSA.
Areas of predicted high density of harbour porpoise (acoustic) (2003 - 2010)	Spatial data showing the areas of top 50, 20, 15, 10, and 5 % predicted high densities of harbour porpoise based upon acoustic detections.	Full coverage of the WSA and DSA.
West Scotland Shelf analysis persistent top 10% density harbour porpoise	Spatial data showing areas persistently containing the top 10 % of harbour porpoise predicted summer density in the West of Scotland Management Unit. The temporal period of the data is from 1994 to 2011.	Full coverage of the WSA and DSA.
West Scotland shelf analysis visual corrected harbour porpoise count data (summer 1994 to 2011)	Spatial data showing the corrected visual count values mapped as segment mid-points. Data show spatial distribution of mid-points where harbour porpoise corrected counts were > 0 and mid-points where no harbour porpoise were observed.	Full coverage of the WSA and DSA.
Areas of predicted high density of harbour porpoise (visual) (2003 - 2010)	Spatial data showing the areas of top 50, 20, 15, 10, and 5 % predicted high densities of harbour porpoise based upon visual observations.	Full coverage of the WSA and DSA.
Annual distribution and relative abundance of Harbour porpoise (1979 - 1997)	Spatial data showing the distribution and relative abundance of harbour porpoise. Data are presented on a quarter ICES rectangle grid.	Full coverage of the WSA and DSA.
Observed adjusted densities of Minke whale (all seasons 2000-2012)	Spatial data showing the observed densities of basking shark on a 5 km x 5 km grid.	Full coverage of the WSA and DSA.
Modelled persistence of above mean density of Minke whale (summers 2001 - 2012)	Spatial data showing areas of persistent densities above mean density for Scottish territorial waters. Data are presented on a 5 km x 5 km grid.	Full coverage of the WSA and DSA.
Annual HWDT Effort Related Sightings data for Minke whale (2003 - 2011)	Spatial data showing sightings per unit effort per 0.05° x 0.05° aggregated units.	Full coverage of the WSA and DSA.
Annual distribution and relative abundance of Minke whale (1979 - 1997)	Spatial data showing the distribution and relative abundance of minke whale. Data are presented on a quarter ICES rectangle grid.	Full coverage of the WSA and DSA.
Annual distribution and relative abundance of Killer whale (1979 - 1997)	Spatial data showing the distribution and relative abundance of killer whale. Data are presented on a quarter ICES rectangle grid.	Full coverage of the WSA and DSA.
Annual distribution and relative abundance of Short-beaked common dolphin (1979 - 1997)	Spatial data showing the distribution and relative abundance of short-beaked common dolphin. Data are presented on a quarter ICES rectangle grid.	Full coverage of the WSA and DSA.

Source	Summary	Spatial Coverage of Proposed Development
National Biodiversity Network (NBN) Atlas: Biological Records	The NBN Atlas is a collaborative project that aggregates biodiversity data from multiple sources and makes it available and usable online. It is the UK's largest repository of publicly available biodiversity data.	Full coverage of the WSA and DSA.
Geodatabase of Marine features adjacent to Scotland (GeMS)	NS and JNCC have collated data from various sources forming the GeMS. This collation of species and habitat records provides information on the known recorded distribution of Scottish PMFs, Annex I habitats, and Annex II species in the marine environment and is used as the core evidence base to support the Scottish MPA network.	Full coverage of the WSA and DSA.
SCANS-IV. Estimates of Cetacean Abundance in European Atlantic Waters in Summer 2022 from the SCANS-IV Aerial and Shipboard Surveys	Broadscale abundance data for cetaceans identified during the SCANS-IV surveys.	Full coverage of the WSA and DSA.
HWDT: Hebridean Marine Mammal Atlas.	The Hebridean Marine Mammal Atlas presents an overview of visual sightings data collected from the HWDT's long-term monitoring programme. These data identify hotspots for species.	Full coverage of the WSA and DSA.
Joint Nature Conservation Committee (JNCC). JNCC Report 680. Updated Abundance Estimates for Cetacean Management Units in UK Waters (Revised 2022).	This report provides updated management unit abundance estimates for the seven most common cetacean species found in UK waters (harbour porpoise, bottlenose dolphin, short-beaked common dolphin, white-beaked dolphin, Atlantic white-sided dolphin, Risso's dolphin, and minke whale).	Full coverage of the WSA and DSA.
NS Research Report 1256. Aerial Surveys of Seals in Scotland During the Harbour Seal Moul, 2016 – 2019.	This report presents the results from the most recent series of aerial surveys carried out around the whole of Scotland, from 2016 to 2019, in the context of previous findings at a national, regional, and local level. These data represent the fifth full Scotland census of harbour seals obtained over the last 25 years.	Full coverage of the WSA and DSA.
Special Committee on Seals (SCOS). Scientific Advice on Matters Related to the Management of Seal Populations: 2022 ²³ .	This report provides scientific advice on matters related to the management of seal populations for the year 2022.	Full coverage of the WSA and DSA.

²³ Natural Environment Research Council (NERC) Special Committee on Seals (SCOS). Scientific Advice on Matters Related to the Management of Seal Populations: 2022. [Online] Available at: <https://www.smru.st-andrews.ac.uk/files/2023/09/SCOS-2022.pdf>

5.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key marine mammal and other marine megafauna stakeholders, primarily NS, to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

5.5 Identified Potential Impacts

5.5.1 Zone of Influence

As defined by CIEEM⁹, the Zol for a project is the area over which ecological features may be affected by biophysical changes as a result of the project and the associated impact pathways. This is likely to extend beyond the project, for example where there are ecological or hydrological links beyond the project boundary. The Zol is also likely to vary dependent on specific ecological feature sensitivity to a specific impact pathway. As such it is likely that the Proposed Development will give rise to multiple Zols. A summary of the impact pathways considered relevant to the Proposed Development, and the associated Zol for each impact pathway, is provided in **Table 5.12**.

Table 5.12: Summary of the potential impact pathways and the associated Zol of the Proposed Development in relation to marine mammal and other marine megafauna features identified within the baseline condition.

Potential Impact Pathway	Zone of Influence	
	Primary Zol (Spatial Extent of Impact)	Secondary Zol (Spatial Extent of Effect)
Marine vessel activity, with the potential to cause disturbance, injury or mortality.	<p>The Zol of this impact pathway is defined by the Vessel Transit Route (VTR) taken by the fish farm vessels servicing the Proposed Development.</p> <p>The indicative VTR outlines a 3.37 km route from the shorebase to the Proposed Development.</p>	<p>Marine mammals are highly mobile, as such, there is the potential for individuals from outwith the primary Zol to transit through the primary Zol and therefore be impacted and affected by these impact pathways.</p> <p>As such, there is the potential for effects over a greater spatial extent than the primary Zol.</p>
Underwater noise, with the potential to cause disturbance and exclusion.	The Zol of this impact pathway is defined by the VTR and a species specific disturbance buffer.	
Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.	<p>The Zol of this impact pathway is defined by the spatial extent of the sub-surface netting deployed at the Proposed Development.</p> <p>Sub-Surface Netting Area (lateral surface only): Per Pen: 2,879.46 m²; and Total: 23,035.68 m².</p>	
Loss of, or damage to, prey supporting habitats.	<p>The Zol of loss of, or damage to prey supporting habitats is defined by the spatial extent of the organic and in-feed deposition mixing zones along with the mooring system (grid and feed barge) footprint.</p> <p>Spatial Extent of Modelled Mixing Zones: Organic material deposition: 206,979 m²; and In-feed deposition: 163,333 m².</p> <p>Spatial extent of the Mooring System: Development Area: 0.67 km².</p>	

5.5.2 Important Ecological Features

In order to better focus the assessment of potential impacts on the ecological features within the EclA, and to help determine whether an ecological feature qualifies as an IEF, a scoping assessment has been undertaken to identify the distinct impact pathways most likely to result in significant effects on the ecological features. As IEFs are those features that are considered both important and potentially affected by the project, it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

The scoping assessment considered the behavioural sensitivity of each ecological feature to the identified impact pathways, the determined abundance and density of each ecological feature within the baseline condition, and the proposed embedded design and operational mitigation. Where impacts on an ecological feature were not predicted to be significant, that ecological feature was scoped out of further assessment. Where the determination of significant effect was uncertain, the precautionary principle was applied, and it is proposed that the feature is scoped in for further assessment.

Table 5.13 summarises the ecological features identified within the baseline condition, outlining whether or not each ecological feature has been classified as an IEF, with the rationale for the decision provided. The importance of the ecological features has been assessed on a project-specific basis.

Table 5.13: Summary of IEF scoping assessment for marine mammals and other marine megafauna.

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
Sea of the Hebrides NC MPA	National	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The Sea of the Hebrides NC MPA is designated for the following relevant features; basking shark and minke whale.	Scoped Out	No
				Underwater noise, with the potential to cause disturbance and exclusion.			
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The Sea of the Hebrides NC MPA is located 1.43 km to the south-southeast of the Proposed Development. As such, there is the potential for both the basking shark and minke whale features to be present in the vicinity of the Proposed Development. Despite the close proximity of the NC MPA to the Proposed Development, both features are considered to be highly mobile and far ranging in their habits, and as such both features are unlikely to be significantly constrained by the Proposed Development, given its limited spatial extent.		
				Underwater noise, with the potential to cause disturbance and exclusion.			
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.			
				Loss of, or damage to, prey supporting habitats.			
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	Furthermore, given the embedded design and operational mitigation (Sub-Section 5.2), principally the commitment to not use ADDs and the adherence to the dVMP, it is determined that the identified impact pathways are unlikely to result in anything other than insignificant effects.		
				Underwater noise, with the potential to cause disturbance and exclusion.			
North-east Lewis NC MPA	National	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The North-east Lewis NC MPA is designated for the following relevant feature; Risso’s dolphin.	Scoped Out	No
				Underwater noise, with the potential to cause disturbance and exclusion.			
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The North-east Lewis NC MPA is located 85.67 km to the northeast of the Proposed Development. Due to the distance between the NC MPA and the Proposed Development connectivity is inherently reduced. Despite the considerable distance between the NC MPA and the Proposed Development, there is the potential for the Risso’s dolphin feature to be present in the vicinity of the Proposed Development, given the species highly mobile nature.		
				Underwater noise, with the potential to cause disturbance and exclusion.			
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.			
				Loss of, or damage to, prey supporting habitats.			
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	However, due to this highly mobile nature of the Risso's dolphin they are unlikely to be significantly constrained by the Proposed Development, given its limited spatial extent. Particularly, as the Proposed Development will not result in impacts within the boundary of the NC MPA.		
				Underwater noise, with the potential to cause disturbance and exclusion.			
Red Rocks and Longay NC MPA	National	Local	Construction	Increased sedimentation as a result of installing the mooring system.	The Red Rocks and Longay NC MPA is designated for the following relevant feature; flapper skate.	Scoped Out	No
			Operation	Organic material deposition as a result of the operation of the Proposed Development.	The Red Rocks and Longay NC MPA is located 72.17 km to the northeast of the Proposed Development. Due to the distance between the NC MPA and the Proposed Development connectivity is inherently reduced. Despite the considerable distance between the NC MPA and the Proposed Development, there is the potential for flapper skate individuals to be present in the vicinity of the Proposed Development, given the species highly mobile nature.		
				In-feed residue deposition as a result of the operation of the Proposed Development.			
				Physical disturbance due to the mooring system of the Proposed Development.			

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
			Decommissioning	Increased sedimentation as a result of decommissioning the mooring system.	However, due to distance between the NC MPA and the Proposed Development, it is determined that the Proposed Development will not impact flapper skate egg laying habitat within the NC MPA. As such, it is determined that the identified impact pathways are unlikely to result in anything other than insignificant effects.		
Kinloch and Kyleakin Hills (Monadh Chaol Acainn is Cheann Loch) SSSI	National	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The Kinloch and Kyleakin Hills (Monadh Chaol Acainn is Cheann Loch) SSSI is designated for the following relevant feature; European otter. The SSSI is located 84.13 km to the east-southeast of the Proposed Development. Due to the distance between the SSSI and the Proposed Development connectivity is not predicted. As such, it is determined that the identified impact pathways are unlikely to result in anything other than insignificant effects.	Scoped Out	No
				Underwater noise, with the potential to cause disturbance and exclusion.			
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			
				Underwater noise, with the potential to cause disturbance and exclusion.			
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.			
				Loss of, or damage to, prey supporting habitats.			
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			
				Underwater noise, with the potential to cause disturbance and exclusion.			
Loch an Duin SSSI	National	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The Loch an Duin SSSI is designated for the following relevant feature; European otter. The SSSI is located 15.86 km to the north of the Proposed Development. Coastal European otter are known to have a much reduced foraging range in comparison to inland / freshwater European otter, primarily due to the plentiful food resource associated with the marine environment. In general coastal European otter have home ranges between 4 and 5 km ²⁴ . Therefore, due to the distance between the SSSI and the Proposed Development connectivity is not predicted. As such, it is determined that the identified impact pathways are unlikely to result in anything other than insignificant effects.	Scoped Out	No
				Underwater noise, with the potential to cause disturbance and exclusion.			
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			
				Underwater noise, with the potential to cause disturbance and exclusion.			
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.			
				Loss of, or damage to, prey supporting habitats.			
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			
				Underwater noise, with the potential to cause disturbance and exclusion.			
Small Seal Islands SSSI	National	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The Small Seal Islands SSSI is designated for the following relevant feature; grey seal. This SSSI consists of six small, relatively isolated and exposed islands located off the western coastlines of the Isle of Harris and North Uist and south of the Isle of Barra. The closest island is located 29.12 km to the west-northwest of the Proposed Development. Despite the distance between the SSSI and the Proposed Development, there is the potential for grey seal originating	Scoped Out	No
				Underwater noise, with the potential to cause disturbance and exclusion.			
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			

²⁴ International Otter Survival Fund (IOSF). Eurasian Otter (*Lutra lutra*). [Online] Available at: <https://www.otter.org/eurasian-otter>

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
				Underwater noise, with the potential to cause disturbance and exclusion. Entanglement in fish farm infrastructure, with the potential to cause injury or mortality. Loss of, or damage to, prey supporting habitats.	from the SSSI to be present in the vicinity of the Proposed Development. However, grey seal are considered to be highly mobile and are known to forage around 100 km from their HOS, meaning that significant habitat is available to them when foraging. As such, grey seal are unlikely to be significantly constrained by the Proposed Development, given its distant location from the SSSI and its limited spatial extent.		
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	Furthermore, given the embedded design and operational mitigation (Sub-Section 5.2), principally the commitment to not use ADDs and the adherence to the dVMP, it is determined that the identified impact pathways are unlikely to result in anything other than insignificant effects.		
Designated seal haul-out sites	National	National	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	Common Seal HOSs Within a 50 km radius of the Proposed Development 11 common seal HOSs were identified. Of these 11 HOSs, two are within 5 km of the Proposed Development, these being the Gairbh-Eilean Ronaigh and Flodda HOSs. However, both of these HOSs are located further inland in sheltered locations. Gairbh-Eilean Ronaigh is located off the northwest coast of the Isle of Ronay in the sheltered waters that separate the Isle of Grimsay and Ronay. Whilst Flodda is located in the sheltered waters, that include the bay to the south of the Isle of Flodaigh that separate the Isle of Grimsay and the Isle of Benbecula. Therefore, whilst these two HOSs are within 5 km of the Proposed Development, due to their locations they are determined to have reduced connectivity with the Proposed Development, due to its location in an open and exposed location.	Scoped Out	No
			Operation	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.			
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	Furthermore, the scientific literature suggests that to avoid disturbance to hauled out grey and common seal, as a general rule, the safe approach distance for boats ranges from 170 m to 200 m. Marine vessel activity associated with the Proposed Development will be well outwith this safe approach range and therefore, disturbance on these HOS is unlikely to occur.		
					Grey Seal HOSs Within a 100 km radius of the Proposed Development 20 HOSs were identified. However, the nearest grey seal HOS is 26.49 km to the north-northeast of the Proposed Development. At this distance, and greater for the other HOSs, it is determined that the Proposed Development will not significantly impact grey seals hauled out at the identified HOSs.		
Seals (common and grey)	International	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	The DBA identified both common and grey seal within the DSA. With common seal more abundant within the DSA than grey seal.	Scoped Out	No
			Operational	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	However, despite the presence of both seal species within the DSA, the identified impact pathways are determined to be sufficiently avoided and reduced via the embedded mitigation measures outlined in Sub-Section 5.2 , these embedded mitigation measures include, the dVMP, inclusive of the pinniped specific vessel management protocols, the commitment to not use ADDs and anti-predator netting as standard, the deployment of high rigidity primary containment netting and an effective tensioning system, and NDM depositional modelling. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)	
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality. Loss of, or damage to, prey supporting habitats.				
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.				
Cetacean species	International	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature. During installation all project vessel activity will be associated with the Development Area, which has a negligible spatial extent. Project vessels will be moving at slow speeds or will be stationary when onsite. Installation activities, including the installation of the mooring system and the anchors, will make use of soft installation techniques. The anchors will be placed on the seabed and then set by tensioning the mooring lines. Due to the nature of the installation activities it is not anticipated that significant underwater noise will be generated and propagated from the Proposed Development. As such, it is determined that this impact pathway is unlikely to result in anything other than insignificant effects.	Scoped Out	No	
				Underwater noise, with the potential to cause disturbance and exclusion.				
			Operational	Marine vessel activity, with the potential to cause disturbance, injury or mortality.	The DBA identified seven cetacean species within the DSA. Of these seven species harbour porpoise were the most abundant, followed by short-beaked common dolphin, and minke whale. The remaining species were identified at negligible to low abundance.	Scoped Out		
				Underwater noise, with the potential to cause disturbance and exclusion.				
				Entanglement in fish farm infrastructure, with the potential to cause injury or mortality.	Whilst harbour porpoise were the most abundant cetacean identified within the DSA, the DSA does not appear to represent a hotspot, or area of high importance, for this species. As data indicate that higher densities are found elsewhere off the west coast of Scotland, particularly off the east coast of the Isle of Skye, the Small Isles, the Firth of Lorn, and the Sound of Jura. For the minke whale, whilst the Proposed Development is located on the edge of an area modelled to support above average densities, this area is extensive and extends from North Uist, down to the Isle of Barra, and across to the Isle of Skye. Other high density areas are also present off the west coast of the isles of Coll and Tiree, the south coast of the Isle of Arran, the west coast of the Outer Hebrides, and the northeast coast of Scotland. Short-beaked common dolphin abundance appears to be higher around the Small Isles and off the coast of the Isle of Skye, and the mainland west coast of Scotland. Furthermore, the identified impact pathways are determined to be sufficiently avoided and reduced via the embedded mitigation measures outlined in Sub-Section 5.2 , these embedded mitigation measures include, the dVMP, inclusive of the cetacean specific vessel management protocols, the commitment to not use ADDs and anti-predator netting as standard, the			
				Loss of, or damage to, prey supporting habitats.				

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
					deployment of high rigidity primary containment netting and an effective tensioning system, and NDM depositional modelling. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development will be considered by proxy through review, and detailed assessment, if needed, of the impact pathways associated with the construction phase.	Scoped Out	
Basking sharks	International	Local	Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	The DBA identified basking shark at negligible abundance within the DSA. Outwith the DSA there are distinct areas that support above average densities, these areas include off the west coast of the Outer Hebrides, and in the waters around the Small Isles and the waters off the west coast of the Isle of Mull and the isles of Coll and Tiree. These areas correlate with the basking shark awareness zones within the Sea of the Hebrides NC MPA, where conservation management measures are proposed to help mitigate risks to basking shark. Therefore, due to the negligible abundance of basking shark recorded within the DSA, and the identification of high importance areas outwith the ZOI of the Proposed Development the potential for significant population level effects is reduced.	Scoped Out	No
			Operational	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion. Entanglement in fish farm infrastructure, with the potential to cause injury or mortality. Loss of, or damage to, prey supporting habitats.	Furthermore, the identified impact pathways are determined to be sufficiently avoided and reduced via the embedded mitigation measures outlined in Sub-Section 5.2 , these embedded mitigation measures include, the dVMP, inclusive of the basking shark specific vessel management protocols, the commitment to not use ADDs and anti-predator netting as standard, and the deployment of high rigidity primary containment netting and an effective tensioning system. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.			
European otter			Construction	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion.	The DBA identified European otter at relative high abundance within the DSA. However, these records are primarily associated with the coastal environment along both the east and west coastlines of the Outer Hebrides, including the sheltered sea lochs and bays, such as Loch Eport and Lochmaddy.	Scoped Out	No
			Operational	Marine vessel activity, with the potential to cause disturbance, injury or mortality. Underwater noise, with the potential to cause disturbance and exclusion. Entanglement in fish farm infrastructure, with the potential to cause injury or mortality. Loss of, or damage to, prey supporting habitats.	Coastal-dwelling European otter are known to forage in association with the intertidal and shallow sublittoral zones, with foraging very unlikely to take place at distances greater than 100 m from the shoreline. Coastal-dwelling European otter typically dive to depths of 2 m for 20 seconds at a time in search of their prey ²⁵ . In contrast, the Proposed Development is located in an open and exposed location with significant water depth. As such, the Development Area does not represent primary foraging habitat for coastal European otter.		
			Decommissioning	Marine vessel activity, with the potential to cause disturbance, injury or mortality.			

²⁵ McCafferty, D., 2005. Ecology and conservation of otters (Lutra lutra) in Loch Lomond and the Trossachs National Park. Glasgow Naturalist, 24(3), pp.29-35. [Online] Available at: <https://eprints.gla.ac.uk/49061/>

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
				Underwater noise, with the potential to cause disturbance and exclusion.	<p>Furthermore, the identified impact pathways are determined to be sufficiently avoided and reduced via the embedded mitigation measures outlined in Sub-Section 5.2, these embedded mitigation measures include, the dVMP, the commitment to not use anti-predator netting as standard, and the deployment of high rigidity primary containment netting and an effective tensioning system.</p> <p>As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.</p>		

5.5.3 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 5.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 5.2** is unlikely to have significant effects on the marine mammal and other marine megafauna receptors identified within the study areas. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 5.2**. As such, embedded mitigation measures for marine mammals and other marine megafauna will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 5.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 5.5** further assessment will be undertaken and presented within the EIAR.

6 Wild Salmonids

6.1 Introduction

This section of the Report identifies the wild salmonid receptors of relevance to the Proposed Development. This section identifies and describes the potential impacts and effects from the construction, operation, and decommissioning of the Proposed Development on the identified wild salmonid receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

6.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on wild salmonid receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 6.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 6.5**.

Table 6.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevance
Development Location	The dispersion potential of the development location is anticipated to help disperse sea lice and disease pathogens to low levels, helping to ensure low concentrations within the marine environment. This therefore minimises the infection risk to wild fishes.	Potential sea lice transfer from farmed to wild salmonids; and Potential disease transfer from farmed to wild salmonids.
Containment Net Strategy	High rigidity primary containment nets will be installed at the Proposed Development, these nets will also be correctly tensioned via a sinker tube system. This will avoid and / or reduce the potential for escape events.	Potential genetic introgression and competition between farmed and wild salmonids.
Mooring and Grid System	The proposed mooring system will be modelled against environmental conditions specific to the development location. The resulting outputs from the modelling will be used to design a bespoke mooring system to ensure that the mooring system will be able to hold the pens and associated infrastructure in place during extreme environmental conditions (1 in 50-year return period).	Potential genetic introgression and competition between farmed and wild salmonids.
Best Practice Husbandry Procedures	Best practice husbandry procedures are anticipated to promote high levels of fish health and welfare, limiting the incidence of disease at the Proposed Development, whilst also helping to avoid and reduce interactions with predatory species, namely seals, which subsequently reduces the potential for containment breaches.	Potential sea lice transfer from farmed to wild salmonids; Potential disease transfer from farmed to wild salmonids; and Potential genetic introgression and competition between farmed and wild salmonids.
Draft Farm Management Statement (dFMS)	The Proposed Development will be located within CoGP Farm Management Area (FMA) W15. All operational activities onsite will be aligned with CoGP and the SGMD recommendations. The draft FMS will detail the following aspects; <ul style="list-style-type: none"> • General health and stocking approach; • Sea lice management strategy; • Movement of fish and harvesting; • Escapes; and • Predator exclusion and control. 	Potential sea lice transfer from farmed to wild salmonids; Potential disease transfer from farmed to wild salmonids; and Potential genetic introgression and competition between farmed and wild salmonids.
Veterinary Health and Welfare Plan (VHWP)	All BFS fish farms operate under a VHWP, this will also be the case for the Proposed Development. The VHWP details the procedures and documentation relating to the health and welfare of fish held at the specific fish farm. All procedures are targeted at preventative rather than remedial action. The content of the VHWP has been specifically designed to achieve the following aims: <ul style="list-style-type: none"> • The prevention of the introduction of disease onto fish farms and the prevention of the spread of disease between fish farms; • The reduction and elimination of factors which predispose to disease; • The reduction of disease incidence; • The maintenance of an environment and systems of management and husbandry which reflect best practice in terms of maintaining fish health and welfare; and • The establishment of a monitoring and reporting structure which ensures adequate fish health surveillance, early warning of any potential health or welfare problem, rapid action and follow up. 	Potential sea lice transfer from farmed to wild salmonids; and Potential disease transfer from farmed to wild salmonids.
Environmental Management Plan (EMP)	As part of a suite of measures to understand potential impacts on and monitor wild salmonid populations, the EMP details the BFS commitment to achieving the four primary objectives: <ul style="list-style-type: none"> • Report on the level of sea lice released into the environment; • Identify the likely area(s) of sea lice dispersal from the farm; • Provide details of the monitoring data that will be collected to assess potential interactions with wild salmonids; and • Provide details on how this monitoring information will feed back to management practice. 	Potential sea lice transfer from farmed to wild salmonids; Potential disease transfer from farmed to wild salmonids; and

Embedded Mitigation Measure	Description	Relevance
	The EMP for CoGP FMA W-15 is provided in Appendix H .	Potential genetic introgression and competition between farmed and wild salmonids.
Draft Escapes Contingency Plan (dECP)	The Proposed Development will have an dECP (Appendix C) in place. The plan outlines the mechanisms what will be in place to ensure effective maintenance of the infrastructure. The plan also clearly outlines the actions to be taken in the event of an escape and the post-notification actions. All the containment and notification measures outlined within the dECP are aligned with the requirements of both the CoGP and The Fish Farming Business (Record Keeping) (Scotland) Order 2008.	Potential genetic introgression and competition between farmed and wild salmonids.
Draft Predator Control Plan (dPCP)	The dPCP for the Proposed Development (Appendix D) outlines the adaptive management measures in place to mitigate against interactions with predatory species, including seals. These measures are determined to avoid and / or reduce the potential for escape events.	Potential genetic introgression and competition between farmed and wild salmonids.
Sea Lice Management Strategy (SLMS)	The Proposed Development will be operated in line with the SLMS. The SLMS provides an overarching framework of strategic principles under which sea lice will be managed across all BFS marine fish farms.	Potential sea lice transfer from farmed to wild salmonids.
Integrated Sea Lice Management (ISLM) Plan	The Proposed Development will implement the ISLM Plan, which provides guidance on how the SLMS measures are to be implemented. The aim of the ISLM Plan is to actively reduce the use of medicinal products (which will reduce the amount potentially discharged from the Proposed Development).	Potential sea lice transfer from farmed to wild salmonids; and Potential disease transfer from farmed to wild salmonids.
Fish Health Intervention Capacity	In line with the ISLM Plan, BFS actively prioritises mechanical and freshwater interventions over traditional chemical interventions. In order to effectively carry out this intervention strategy, BFS has invested heavily in fish health intervention vessel capacity, with FLS vessels and dual FLS and freshwater wellboats. These vessels will be available for deployment at the Proposed Development.	Potential sea lice transfer from farmed to wild salmonids; and Potential disease transfer from farmed to wild salmonids.
SEPA Sea Lice Regulatory Framework (SLRF)	As of February 2024, SEPA took on the responsibility of lead regulator responsible for the management of sea lice and wild salmonid interactions. As such, all CAR Licence applications for new farms, and applications to vary existing farms, will be assessed by SEPA to determine whether they could pose a risk to wild salmonid populations. Where, based on this risk assessment, SEPA concludes that action is required to manage interactions to protect wild salmonids, SEPA will set permit conditions, within the CAR Licence, that limit the maximum number of sea lice on the farm when authorising the Proposed Development; or, if necessary, SEPA will refuse to authorise the Proposed Development. If SEPA concludes that the relative risk to wild salmonids posed by the Proposed Development is very low, no further action will be required.	Potential sea lice transfer from farmed to wild salmonids.

6.3 Baseline Condition

6.3.1 Study Area

A single study area with a 35 km radius from the Proposed Development has been determined as appropriate. This radius has been determined based on NS guidance for assessing the potential impact between fish farms and SACs, with either Atlantic salmon (*Salmo salar*) (hereafter referred to as salmon) or freshwater pearl mussel (FWPM) (*Margaritifera margaritifera*) as qualifying features. This guidance, and associated 35 km distance parameter, suggests that wild salmonids originating from any freshwater course at a distance greater than 35 km from a fish farm are likely to be at a low risk of impact from sea lice transmission.

6.3.2 Designated Sites

Full consideration of the potential connectivity between the Proposed Development and European Sites (SPAs, SACs, and Ramsar sites) is provided within the shadow HRA Screening Report (**Appendix F**).

Although the shadow HRA Screening Report (**Appendix F**) is separate from the requirements of the EIA, the European Site screening assessment carried out is considered to be appropriate in terms of identifying potential connectivity between European Sites and the Proposed Development under the EIA process. Based upon the outcomes of the screening assessment, no European Sites with either salmon or FWPMs as qualifying features were identified. As such, European Sites are not considered further in this section.

6.3.3 Biological Records

6.3.3.1 Spatial Distribution of Scottish Atlantic Salmon Rivers

Figure 6.1 illustrates the spatial distribution of Scottish salmon supporting rivers²⁶ that are located within the wild salmonid study area. As can be seen there are a number of salmon supporting rivers that discharge into the marine environment within the study area. However, there are no rivers within the immediate vicinity of the Proposed Development. A number of rivers discharge into the marine environment off the west coast of the Outer Hebrides, whilst on the east coast rivers discharge into Loch Eport and Lochmaddy.

²⁶ National Marine Plan interactive (NMPi): Salmon and Sea Trout - Scottish Salmon Rivers (hidden when zoomed in past 1:50,000). [Online] Available at: <https://marine.gov.scot/maps/843>

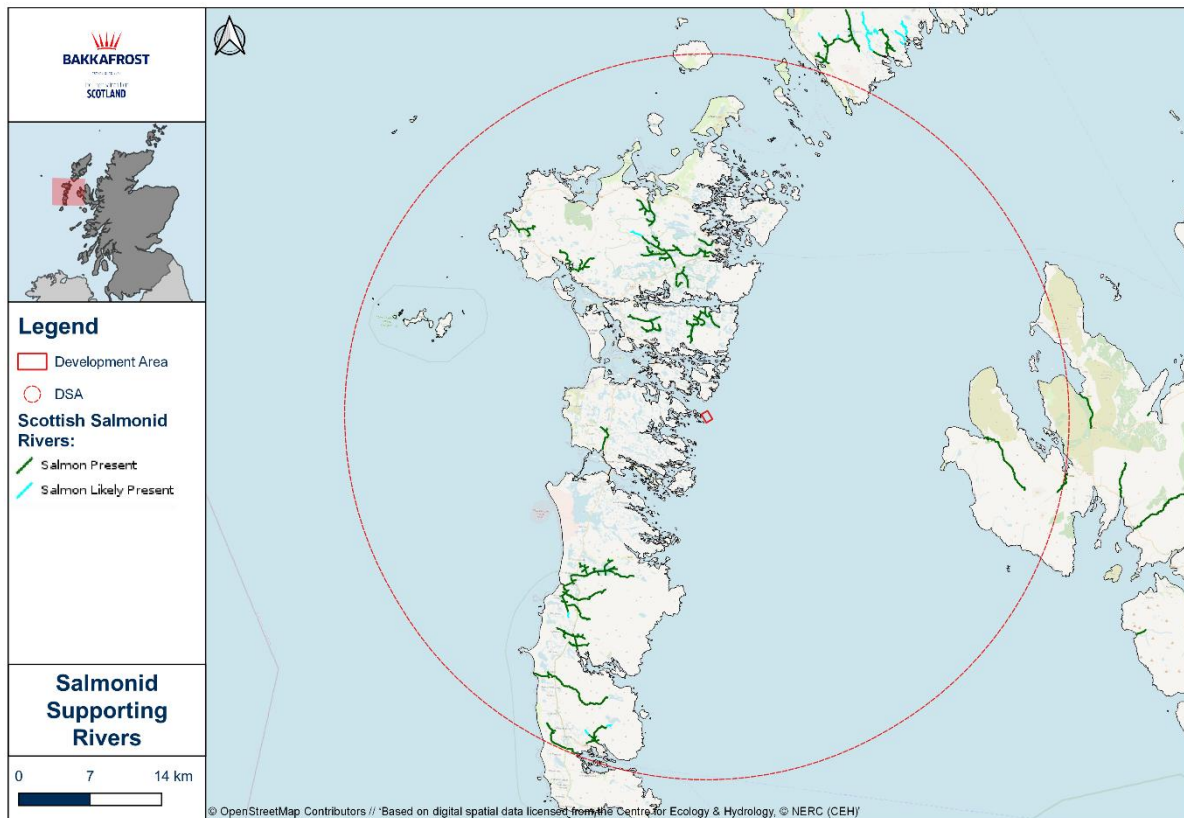


Figure 6.1: Scottish salmon supporting rivers identified within the wild salmonids study area.

6.3.3.2 District Level Atlantic Salmon and Sea Trout Populations

6.3.3.2.1 Atlantic Salmon Fishery Statistics

The Proposed Development will be located within the Howmore statistical district, which covers the Isle of Benbecula and southwards to the Isles of Mingulay and Barra Head. Due to the spatial extent of this district, statistics for the district as a whole may not be representative of catches in the immediate area of the Proposed Development. Figure 6.2 illustrates the catch returns of salmon caught within the Howmore district between 1952 and 2023. As can be seen, catch returns of both multi-sea-winter (MSW) and one-sea-winter (1SW) fish have shown significant interannual variation, with MSW catch returns displaying a declining trend, and 1SW catch returns displaying a increasing trend across the complete temporal period.

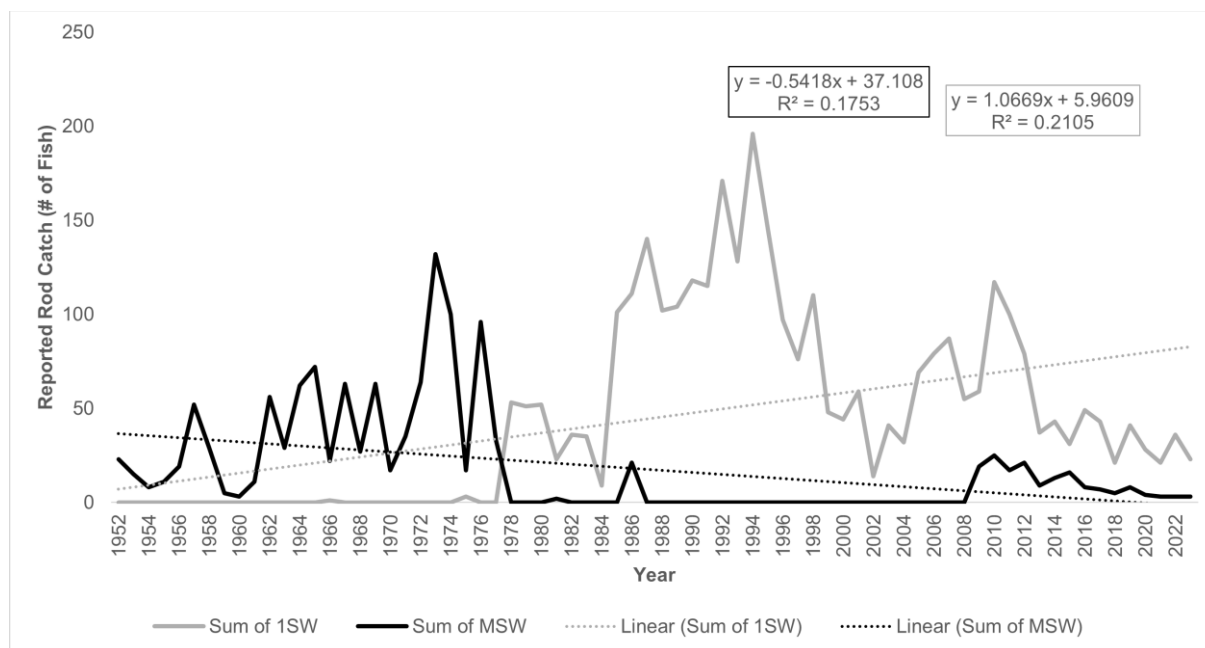


Figure 6.2: Annual rod catch data for salmon in the Howmore district between 1952 and 2023 (inclusive) grouped as multi-sea-winter fish and one-sea-winter fish.

6.3.3.2.2 Sea Trout Fishery Statistics

Figure 6.3 illustrates the catch returns of sea trout caught within the Howmore district between 1952 and 2023. As can be seen, catch returns of sea trout have shown significant interannual variation.

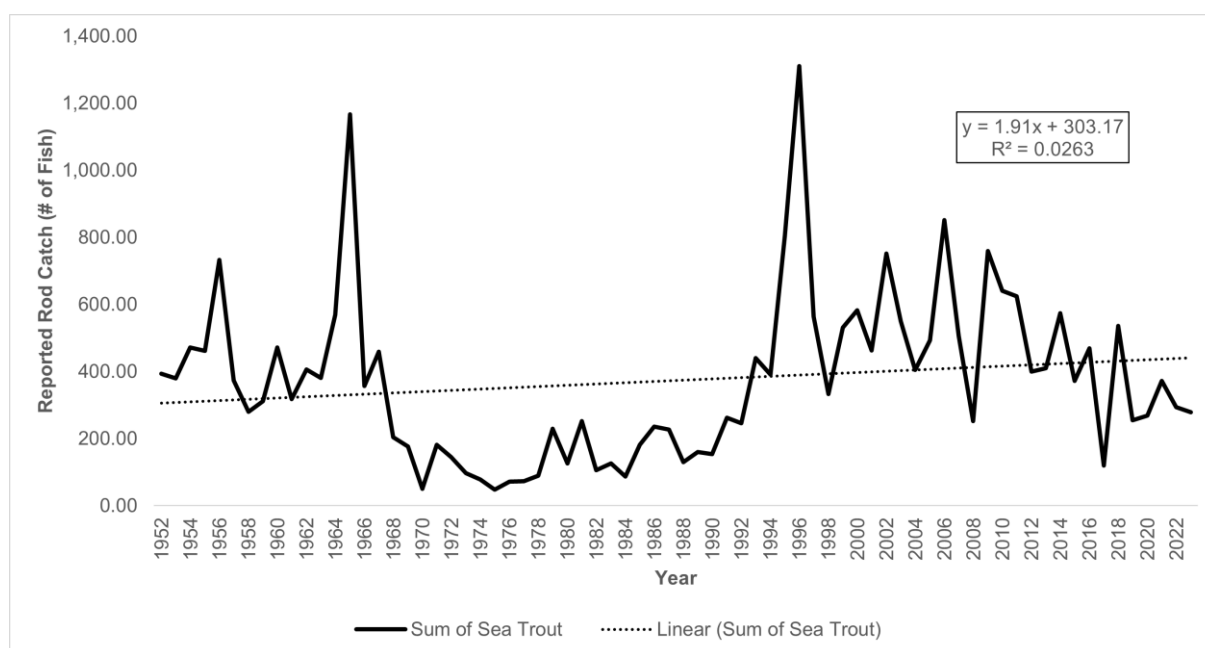


Figure 6.3: Annual rod catch data for sea trout in the Howmore district between 1952 and 2023 (inclusive).

6.4 Proposed Approach to the Environmental Impact Assessment

The wild salmonids EIA will follow the EclA methodology outlined in **Sub-Section 2.2.2.3**. Where possible, the sensitivity of specific receptors will be defined through review of the Marine Evidence-based Sensitivity Assessment¹⁵ (MarESA) framework, the Feature Activity Sensitivity Tool¹⁶ (FeAST), grey literature (i.e., EIARs for other developments), and scientific literature.

6.4.1 Data Collection Approach

A comprehensive DBA will be undertaken as part of the wild salmonids EclA in order to present a thorough baseline condition. Population trends for both salmon and sea trout will be presented at a national, regional, and district level, in addition to information on the pressures currently facing wild salmonid stocks, as well as data on wild salmonid distribution within the study area.

Information on the relevant Disease Management Area (DMA) of the Proposed Development, and any likely modification to the DMA spatial extent will be detailed, along with a review of historical sea lice control at BFS farms within the relevant CoGP FMA.

Data identified and planned for analysis to inform this baseline condition is presented in **Table 6.2**.

Table 6.2: Key publicly available data sources for the wild salmonids baseline condition.

Source	Summary	Spatial Coverage of Proposed Development
SGMD: Scottish salmon and sea trout fishery statistics	Data available at district, regional and national level for rod catch returns of salmon and sea trout between 1952 and 2023 (inclusive).	Data available for the district within which the Proposed Development is located.
International Council for the Exploration of the Seas (ICES): Working Group on North Atlantic Salmon	Data available at national level for salmon, showing numbers of returning salmon and number of spawning salmon.	National level data.
Scottish Government (SG): The Conservation of Salmon (Scotland) Regulations 2016 – River Gradings	Annual river grade data, which is indicative of each rivers conservation limit.	Spatial data with national coverage, including within the study area.
SG: National Electrofishing Programme for Scotland (NEPS)	Spatial density data for salmon and sea trout. Along with genetic introgression data for salmon.	Spatial data with national coverage, including within the study area.
SG: Wild Salmon Strategy	Data on the pressures influencing salmonid population dynamics.	National level data.
SGMD: DMAs	Spatial data on DMAs.	Covers DMA within which the Proposed Development will be located.

6.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key wild salmonid stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

6.5 Identified Potential Impacts

6.5.1 Zone of Influence

As defined by CIEEM⁹, the Zol for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and the associated impact pathways. This is likely to extend beyond the project, for example where there are ecological or hydrological links beyond the project boundary. The Zol is also likely to vary dependent on specific ecological feature sensitivity to a specific impact pathway. As such it is likely that the Proposed Development will give rise to multiple Zol. A summary of the determined Zol for each impact pathway associated with the Proposed Development is provided in **Table 6.3**.

Table 6.3: Summary of the potential impact pathways and the associated Zol of the Proposed Development in relation to the wild salmonid features identified within the baseline condition.

Potential Impact Pathway	Zone of Influence	
	Primary Zol (Spatial Extent of Potential Impacts)	Secondary Zol (Spatial Extent of Potential Effects)
Potential sea lice transfer from farmed to wild salmonids.	<p>Sea lice may be released from the Proposed Development, in the event that sea lice, from wild origins / populations, parasitise the stocked fish and establish populations onsite.</p> <p>Therefore, the impact is associated with the spatial extent of the Proposed Development, as only pens with farmed Atlantic salmon may release sea lice into the water column. However, despite the point source nature of the initial release of sea lice, dispersal over a wider area is likely to occur due to hydrological connectivity.</p> <p>Sea lice modelling studies that have been reported on in the literature indicate viable sea lice larvae may be transported up to 15 km from their point source, with infective stage, copepodid larvae, peaking between 7 and 12 km seaward of their point source²⁷.</p> <p>As such, based on these modelling studies a precautionary primary Zol of 15 km has been applied.</p>	Due to the migratory behaviour of wild salmonids during the marine phase of their lifecycle, there is the potential for salmonids from a wide spatial area to transit through the primary Zol of the Proposed Development. As such a precautionary secondary Zol of 35 km has been applied.
Potential disease transfer from farmed to wild salmonids.	<p>Pathogens may be shed from infected salmonids either from wild or farmed origin. As such, if farmed salmon shed pathogens into the water column there is the potential for transfer to both other farmed and wild salmonids.</p> <p>Despite the initial release of pathogens being associated with the point source release from the pens of the Proposed Development, due to hydrological connectivity, pathogens may be transported over large distances within the marine environment. The exact distance will be dependent on the specific pathogen and the local hydrological regime.</p> <p>Based upon SGMD guidance on separation distance for DMAs, a precautionary primary Zol of 7.26 km is proposed. This is based the 7.258 km tidal excursion distance for a current speed of 0.51 m/s. Current velocity data for the Proposed Development is well below the 0.51 m/s stated in the SGMD guidance and therefore this primary Zol is considered highly precautionary.</p>	
Potential genetic introgression and competition between farmed and wild salmonids.	<p>Farmed salmon may escape from the Proposed Development, in the highly unlikely event of containment failure.</p> <p>Whilst the initial escape of farmed Atlantic salmon is considered to be a point source release from the Proposed Development, due to hydrological connectivity, these escapee salmon may travel large distances within the marine environment, potentially even entering freshwater systems.</p> <p>To account for this, a precautionary primary Zol of 35 km has been applied.</p>	

²⁷ Gillibrand, P.A. and Willis, K.J., 2007. Dispersal of sea louse larvae from salmon farms: modelling the influence of environmental conditions and larval behaviour. Aquatic Biology, 1(1), pp.63-75. [Online] Available at: <https://www.int-res.com/abstracts/ab/v1/n1/p63-75/>

6.5.2 Important Ecological Features

In order to better focus the assessment of potential impacts on the ecological features within the EclA, and to help determine whether an ecological feature qualifies as an IEF, a scoping assessment has been undertaken to identify the distinct impact pathways most likely to result in significant effects on the ecological features. As IEFs are those features that are considered both important and potentially affected by the project, it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

The scoping assessment considered the behavioural sensitivity of each ecological feature to the identified impact pathways, the determined abundance and density of each ecological feature within the baseline condition, and the proposed embedded design and operational mitigation. Where impacts on an ecological feature were not predicted to be significant, that ecological feature was scoped out of further assessment. Where the determination of significant effect was uncertain, the precautionary principle was applied, and it is proposed that the feature is scoped in for further assessment.

Table 6.4 summarises the ecological features identified within the baseline condition, outlining whether or not each ecological feature has been classified as an IEF, with the rationale for the decision provided. The importance of the ecological features has been assessed on a project-specific basis.

Table 6.4: Summary of IEF scoping assessment for wild salmonids.

Ecological Feature	General Importance	Geographic	Importance of the Feature in the Context of the Proposed Development	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
Salmon	International		Regional	Potential sea lice transfer from farmed to wild salmonids	<p>As detailed within Sub-Section 6.2, as of February 2024, SEPA has become the lead regulator responsible for managing sea lice and wild salmonid interactions. At present management of sea lice interactions only applied to salmon, with sea trout scheduled to be incorporated and managed from March 2025 onwards.</p> <p>As such, potential impacts between sea lice originating from the Proposed Development and salmon populations within the Zol of the Proposed Development are fully considered through the CAR Licence application process.</p> <p>When determining applications for new farm developments SEPA will assess the likelihood of wild salmon post-smolts being infected with harmful levels of lice during their passage through defined Wild Salmon Protection Zones (WSPZs). To do this, SEPA will:</p> <ul style="list-style-type: none"> • Use modelling to assess the potential infective-stage sea lice concentrations within the relevant WSPZ (Between 1st April and 31st May), considering the Proposed Development and any existing farms; • Determine the potential exposure to infective-stage sea lice to which salmon post-smolts may be subject during their passage through the WSPZ (Between 1st April and 31st May); and • Apply a sea lice exposure threshold of 0.7 lice per m² days. <p>SEPA will conclude that the Proposed Development poses a significant risk of wild salmon post-smolts being infected with harmful levels of lice if it is predicted to cause:</p> <ul style="list-style-type: none"> • The exposure threshold to be exceeded; and / or • An increase in the extent by which the exposure threshold is already exceeded. <p>When granting authorisations, SEPA will include conditions of authorisation where they consider it necessary and expedient to do so for the protection of the water environment. Permit conditions will include, as appropriate:</p> <ul style="list-style-type: none"> • Limits on the total number of sea lice permitted on the farm, between 19th March and 31st May; and • Monitoring and reporting conditions, between 19th March and 30th October. <p>As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out	Yes

Ecological Feature	General Importance	Geographic	Importance of the Feature in the Context of the Proposed Development	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
				Potential disease transfer from farmed to wild salmonids	<p>Evidence^{28,29,30,31,32,33,34,35,36} indicates low observed disease prevalence within wild salmonid populations, which represents natural transmission within the wild population rather than significant farm to wild transmission of disease pathogens. As a result, it is unlikely that farm to wild transmission is regularly taking place.</p> <p>Furthermore, several embedded mitigation measures, outlined in Sub-Section 6.2, will help to ensure high levels of fish health and welfare throughout production cycles at the Proposed Development. In doing so, the prevalence of disease at the Proposed Development is anticipated to be negligible and therefore poses a negligible risk to wild salmonids within the Zol of the Proposed Development.</p> <p>Key embedded mitigation measures include; best practice husbandry, including fish health monitoring and the fish health intervention strategy, adherence to the dFMS for CoGP FMA W15, adherence to the principles and procedures of the VHWP, adherence to the SLMS and ISLM Plan, and utilisation of increased fish health vessel capacity.</p> <p>As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out	
				Potential genetic introgression and competition between farmed and wild salmonids	<p>The interbreeding between escapee farmed and wild salmon has the potential to compromise the fitness of hybrid offspring. The mixing of farmed and wild genetic material may also result in the irreversible loss of unique genetic diversity within wild salmon populations.</p> <p>The DBA identified the presence of salmon within the study area. As such there is the potential for significant effect. Therefore, further assessment is required to determine the magnitude of the potential impact.</p>		
Sea trout	National		Regional	Potential sea lice transfer from farmed to wild salmonids	<p>At present whilst SEPA implemented the SLRF for salmon in February 2024, they have yet to implement the framework for protecting sea trout, with this currently planned for March 2025. As such, BFS does not consider that potential impacts on sea trout to be satisfactorily considered through the CAR Licence process, until the framework sea trout has been developed and implemented.</p> <p>Sea trout are known to remain in coastal waters for the majority of time during the marine phase of their lifecycle. As such, sea trout are considered to be at greater risk of sea lice infection.</p>	Scoped In	Yes

²⁸ Biering, E., Madhun, A.S., Isachsen, C.H., Omdal, L.M., Einen, A.C.B., Garseth, Å.H., Bjørn, P.A., Nilsen, R. and Karlsbakk, E., 2013. Annual report on health monitoring of wild anadromous salmonids in Norway. [Online] Available at: [https://imr.brage.unit.no/imr-xmlui/bitstream/handle/11250/116756/Annual%20report%20on%20health%20monitoring%20of%20wild%20anadromous%20salmonids%20in%20Norway%20\(Rapport%20fra%20Havforskningen%20nr.%206-2013\).pdf?sequence=1](https://imr.brage.unit.no/imr-xmlui/bitstream/handle/11250/116756/Annual%20report%20on%20health%20monitoring%20of%20wild%20anadromous%20salmonids%20in%20Norway%20(Rapport%20fra%20Havforskningen%20nr.%206-2013).pdf?sequence=1)

²⁹ Raynard, R., Wahli, T., Vatsos, I. and Mortensen, S., 2007. Review of disease interactions and pathogen exchange between farmed and wild finfish and shellfish in Europe. VESO project, 1655. [Online] Available at: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Raynard+R.%2C+Wahli+T.%2C+Vatsos+I.%2C+and+Mortensen+S.+2007.+DIPNET+%E2%80%93+review+of+disease+interactions+and+pathogen+exchange+between+farmed+and+wild+finfish+and+shellfish+in+Europe.+p.+452.+Euro+pean+Commission%2FVeterin%C3%A6rmedisinsk+Oppdragssenter.&btnG=

³⁰ Wallace, I.S., Gregory, A., Murray, A.G., Munro, E.S. and Raynard, R.S., 2008. Distribution of infectious pancreatic necrosis virus (IPNV) in wild marine fish from Scottish waters with respect to clinically infected aquaculture sites producing Atlantic salmon, *Salmo salar* L. Journal of fish diseases, 31(3), pp.177-186. [Online] Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2761.2007.00886.x>

³¹ McAllister, P.E., Newman, M.W., Sauber, J.H. and Owens, W.J., 1984. Isolation of infectious pancreatic necrosis virus (serotype Ab) from diverse species of estuarine fish. Helgoländer Meeresuntersuchungen, 37(1), pp.317-328. [Online] Available at: <https://link.springer.com/article/10.1007/BF01989314>

³² Stephens, E.B., Newman, M.W., Zachary, A.L. and Hetrick, F.M., 1980. A viral aetiology for the annual spring epizootics of Atlantic menhaden *Brevoortia tyrannus* (Latrobe) in Chesapeake Bay. Journal of Fish Diseases, 3(5), pp.387-398. [Online] Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2761.1980.tb00423.x>

³³ Garseth, Å.H., Fritsvold, C., Opheim, M., Skjerve, E. and Biering, E., 2013. Piscine reovirus (PRV) in wild Atlantic salmon, *Salmo salar* L., and sea-trout, *Salmo trutta* L., in Norway. Journal of Fish Diseases, 36(5), pp.483-493. [Online] Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2761.2012.01450.x>

³⁴ Taranger, G.L., Karlsen, Ø., Bannister, R.J., Glover, K.A., Husa, V., Karlsbakk, E., Kvamme, B.O., Boxaspen, K.K., Bjørn, P.A., Finstad, B. and Madhun, A.S., 2015. Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. ICES Journal of Marine Science, 72(3), pp.997-1021. [Online] Available at: <https://academic.oup.com/icesjms/article/72/3/997/686282>

³⁵ Douglas-Helders, G.M., Dawson, D.R., Carson, J. and Nowak, B.F., 2002. Wild fish are not a significant reservoir for *Neoparamoeba pemaquidensis* (Page, 1987). Journal of Fish Diseases, 25(10), pp.569-574. [Online] Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1365-2761.2002.00394.x>

³⁶ Stagg, H.E.B., Hall, M., Wallace, I.S., Pert, C.C., Garcia Perez, S. and Collins, C., 2015. Detection of *Paramoeba perurans* in Scottish marine wild fish populations. Bull Eur Assoc Fish Pathol, 35, pp.217-226. [Online] Available at: https://eafp.org/download/2015-volume35/issue_6/35-6-217-stagg.pdf

Ecological Feature	General Importance	Geographic	Importance of the Feature in the Context of the Proposed Development	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
					The DBA identified the presence of sea trout within the study area. As such there is the potential for significant effect. Therefore, further assessment is required to determine the magnitude of the potential impact.		
				Potential disease transfer from farmed to wild salmonids	The rationale for screening out this impact pathway for sea trout mirrors that presented for salmon, above. The combination of limited evidence to suggest significant farm to wild transmission of disease pathogens and the embedded mitigation measures designed to promote high levels of fish health and welfare at the Proposed Development. As such, the identified impact pathway is unlikely to result in anything other than insignificant effects.	Scoped Out	
				Potential genetic introgression and competition between farmed and wild salmonids	<p>There is the potential for hybridisation between salmon and sea trout. However, hybridisation between these two species occurs at very low background levels in the wild³⁷, the average proportion of hybrids can be as low as 1 % or less, but with variation between some rivers, where hybrids can account for as much as 10 %.</p> <p>These hybrids are known to display good survival, but they are largely sterile, therefore, these interspecific hybrids may reduce the overall productivity of wild salmon and sea trout populations. However, due to the lower reproductive success rates of escapee farmed salmon in comparison to wild salmon³⁸ the influence of escapee farmed salmon on hybridisation rates is unlikely to be significant given the negligible to low background levels of hybridisation between these two species under natural conditions.</p> <p>As such, this impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out	

³⁷ Youngson, A.F., Webb, J.H., Thompson, C.E. and Knox, D., 1993. Spawning of escaped farmed Atlantic salmon (*Salmo salar*): hybridization of females with brown trout (*Salmo trutta*). Canadian Journal of Fisheries and Aquatic Sciences, 50(9), pp.1986-1990. [Online] Available at: <https://cdnsiencepub.com/doi/abs/10.1139/f93-221>

³⁸ Fleming, I.A., Jonsson, B., Gross, M.R. and Lamberg, A., 1996. An experimental study of the reproductive behaviour and success of farmed and wild Atlantic salmon (*Salmo salar*). Journal of Applied Ecology, pp.893-905. [Online] Available at: <https://www.jstor.org/stable/2404960>

6.5.3 Summary of EIA Scope

Based upon the scoping assessment undertaken in **Sub-Section 6.5**, it is proposed that the wild salmonid receptors and impact pathways detailed in **Table 6.5** are scoped into the EIA and assessed further.

Table 6.5: Summary of the receptors and impact pathways scoped into the wild salmonid EIA.

Ecological Feature	Importance of the Feature in the Context of the Proposed Development	Development Phase	Impact Pathway	Scoping Outcome
Salmon	Regional	Operational	Potential genetic introgression and competition between farmed and wild salmonids	Scoped In
Sea trout	Regional	Operational	Potential sea lice transfer from farmed to wild salmonids	

7 Coastal and Marine Ornithology

7.1 Introduction

This section of the Report identifies the coastal and marine ornithological receptors of relevance to the Proposed Development. This section identifies and describes the potential impacts and effects from the construction, operation, and decommissioning of the Proposed Development on the identified receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

7.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on coastal and marine ornithological receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 7.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 7.5**.

Table 7.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevant Impact Pathway(s)
Development Location	The dispersion potential of the development location will allow for organic material and in-feed residue discharges to be dispersed to low levels over a wide area.	Loss of, or damage to prey-supporting habitats
NewDEPOMOD (NDM) Modelling	NDM modelling for the Proposed Development has been undertaken for both organic and in-feed residue deposition. The outputs indicate compliance to SEPA regulatory criteria. The NDM Modelling Report is provided as Appendix B .	
Farm Design and Layout	The Proposed Development will make use of a small number of larger pens. This will help limit the spatial extent of the Proposed Development in relation to the seabed and benthic environment.	
SEPA CAR Licencing (The Water Environment (Controlled Activities) (Scotland) Regulations 2011)	The Proposed Development will be regulated by SEPA through compliance with the conditions of the CAR Licence.	
Environmental Quality Standards (EQS)	Discharge limits for the Proposed Development represent discharge quantities that have been modelled and show full compliance to the relevant EQSs.	
Feed Control and Monitoring	Effective feed control and monitoring will reduce feed wastage and minimise the potential for organic deposition beneath the Proposed Development.	
Pellet Detection Software	This software aims to reduce the amount of excess feed being distributed to fish, which is anticipated to reduce potential organic deposition impacts on the benthos.	
Fallowing	At present, SEPA require that there is a minimum period of 28 consecutive days between every production cycle during which no commercial species shall be kept onsite. This will help avoid potential impacts for temporary periods.	
Enforcement	Through the Water Environment (Controlled Activities) (Scotland) Regulations 2011, SEPA has enforcement powers to decrease the maximum biomass if a fish farm is deemed to continuously not comply with benthic quality standards.	
Containment Net Strategy	High rigidity primary containment netting will be installed at the Proposed Development, this netting will also be correctly tensioned via a sinker tube system. As standard the primary containment netting will have a mesh size of 18 mm. This will avoid and / or reduce the potential for entanglement and entrapment.	Entanglement or entrapment in top, pen, or anti-predator netting
Draft Vessel Management Plan (dVMP)	To ensure best practice in terms of marine vessel management associated with the Proposed Development, all primary service vessels will be operated in line with the dVMP (Appendix E). The dVMP details general vessel management protocols, as well as specific protocols relating to seabird activity. These protocols are designed to avoid or reduce the potential interactions between marine vessels and seabirds.	Disturbance in the vicinity of the Proposed Development and VTR
Bird Top Net Strategy	The Proposed Development will make use of a pole-mounted top net system. The top netting will have a ceiling mesh size of 100 mm and a sidewall mesh size of 75 mm. These mesh size dimensions are aligned with NatureScot guidance ⁷ .	Entanglement or entrapment in top, pen, or anti-predator netting
Anti-Predator Nets	BFS will not use anti-predator nets as a standard measure at the Proposed Development. In circumstances of exceptional welfare concern for stocked fish, BFS will consult with NS and the LPA on the feasibility and potential for use of anti-predator nets at the Proposed Development.	Entanglement or entrapment in top, pen, or anti-predator netting
Draft Predator Control Plan (dPCP)	The dPCP for the Proposed Development (Appendix D) outlines the adaptive management measures in place to mitigate against interactions with predatory species, including birds.	Entanglement or entrapment in top, pen, or anti-predator netting
Monitoring and Reporting		
Entanglement and Entrapment Monitoring and Reporting	BFS will implement an entanglement and entrapment monitoring and reporting programme at the Proposed Development, as is implemented across all BFS marine operations. The requirements of the monitoring and reporting programme will be in line with those outlined by NS, through the Interim Technical Briefing Note: Pole-mounted Top Nets and Birds at Finfish Farms ⁷ .	Entanglement or entrapment in top, pen, or anti-predator netting
Wildlife Logbook Monitoring	The Proposed Development will keep a logbook of all wildlife noted in the vicinity. This will include a comment on the interaction type, e.g., distant sighting, or direct interaction with fish farm infrastructure. This wildlife logbook will help understand patterns in species utilisation of the area over time.	All Impact Pathways (see Sub-Section 7.5.1).
Environmental Monitoring Plan	A draft Environmental Monitoring Plan will be developed and submitted to SEPA as part of the CAR Licence pre-application process. SEPA will determine the finalised Environmental Monitoring Plan, and this will be attached as an enforceable condition to the CAR Licence.	Loss of, or damage to prey-supporting habitats

7.3 Baseline Condition

7.3.1 Study Area

Two study areas have been defined based upon differing spatial scales. A Wider Study Area (WSA) has been defined based upon a 50 km radius around the Development Area. The WSA has been defined to allow for the identification of designated sites (national designated sites i.e., Sites of Special Scientific Interest (SSSIs)) not captured through the shadow HRA Screening Report (**Appendix F**).

A Detailed Study Area (DSA) has also been defined. The DSA has been defined to represent the realistic maximum spatial extent of potential impacts on ornithological features, whilst also identifying ornithological features that are considered likely to regularly be present within the waters local to the Proposed Development. The DSA is defined as a 10 km radius around the Development Area.

7.3.2 Designated Sites

7.3.2.1 European Sites

Full consideration of the potential connectivity between the Proposed Development and European Sites (SPAs, SACs, and Ramsar sites) is provided within the shadow HRA Screening Report (**Appendix F**).

Although the shadow HRA Screening Report (**Appendix F**) is separate from the requirements of EIA, the European Site screening assessment carried out is also considered to be appropriate in terms of identifying potential connectivity between European Sites and the Proposed Development under the EIA process. A summary of the identified and screened in European Sites, with ornithological qualifying features, is presented in **Table 7.2**.

Table 7.2: Summary of European Sites, with ornithological qualifying features, that have been screened into the shadow HRA.

Site Name	Relevant Qualifying Features	Distance from the Proposed Development (Straight Line) (km)	Direction from the Proposed Development (Compass Direction and Bearing (°))
St. Kilda SPA	Northern gannet (<i>Morus bassanus</i>)	81.59	West-northwest (65°W)
Seas off St. Kilda SPA		64.82	North-northwest (34°W)

7.3.2.2 National Sites

7.3.2.2.1 Sites of Special Scientific Interest (SSSI)

As outlined within the initial Screening and Scoping Report, submitted to CnES by BFS in June 2022 as part of the formal Screening and Scoping Request (22/00282) for the initial Morrison's Rock proposal, no SSSIs notified for ornithological features were identified as having the potential to be significantly affected by the Proposed Development. This conclusion was confirmed by CnES and the relevant statutory consultees, who did not highlight any SSSIs, with ornithological features, that required detailed assessment within the EIA.

As the revised proposal is located approximately 420 m to the southeast of this previous proposal, it is determined that the conclusions on SSSI connectivity remain unchanged. Therefore, no ornithological SSSIs are scoped in for further assessment.

7.3.3 Ornithological Features

The initial DBA identified 18 notable coastal and marine bird species within the DSA, with varying abundance. **Table 7.3** provides a summary of the records along with detail on the data sources that have been reviewed. The review of biological records has focused on the DSA, as the spatial extent of the DSA is considered appropriate to indicate the likely presence and abundance of coastal and marine bird species that may interact with the Proposed Development.

Notable bird species are taken as those listed:

- On Annex I of Council Directive 2009/147/EC on the Conservation of Wild Birds (the 'Wild Birds Directive');
- On Schedule 1, 1A, and A1 of the Wildlife and Countryside Act 1981;
- On the Birds of Conservation Concern 5 (BCC5) Red List;
- On the Scottish Biodiversity List (SBL);
- On the Marine Protected Area (MPA) search features list; or
- Qualifying features of identified designated sites (**Sub-Section 7.3.2**).

Table 7.3: Summary of coastal and marine ornithological records within the DSA.

Common Name	Scientific Name	Conservation Value	Relevant Qualifying Feature of an Identified Designated Site	Species Count*	Number of Records	Date	Data Source
Arctic Tern	<i>Sterna paradisaea</i>	Wild Birds Directive Annex I, SBL.	No	99	10	2002	SMP
Black Guillemot	<i>Cepphus grylle</i>	MPA search feature	No	7	2	2001, 2021	SMP
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	SBL	No	4	1	2002	SMP
Black-tailed Godwit	<i>Limosa limosa</i>	WCA Schedule 1, SBL, BCC5 Red List	No	2	2	2019, 2020	NBN
Black-throated Diver	<i>Gavia arctica</i>	Wild Birds Directive Annex I, WCA Schedule 1, SBL.	No	6	6	2002, 2006	NBN
Common Tern	<i>Sterna hirundo</i>	Wild Birds Directive Annex I, SBL.	No	90	12	2002, 2018	SMP
Curlew	<i>Numenius arquata</i>	SBL, BCC5 Red List	No	28	28	2003, 2004, 2005, 2006	NBN
Golden Eagle	<i>Aquila chrysaetos</i>	Wild Birds Directive Annex I, WCA Schedule 1, 1A, and A1, SBL.	No	12	12	2002, 2003, 2004, 2005, 2006, 2007, 2008, 2011, 2013, 2015, 2017, 2018	NBN
Golden Plover	<i>Pluvialis apricaria</i>	Wild Birds Directive Annex I, SBL.	No	3	3	2002	NBN
Goldeneye	<i>Bucephala clangula</i>	WCA Schedule 1, BCC5 Red List	No	1	1	2020	NBN
Herring Gull	<i>Larus argentatus</i>	SBL, BCC5 Red List	No	1 355	1 26	2012 2002, 2018	NBN SMP
Peregrine	<i>Falco peregrinus</i>	Wild Birds Directive Annex I, SBL	No	27	27	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019	NBN
Pintail	<i>Anas acuta</i>	WCA Schedule 1	No	1	1	2019	NBN
Red-throated Diver	<i>Gavia stellata</i>	Wild Birds Directive Annex I, WCA Schedule 1, SBL	No	5	5	2006	NBN
Ringed Plover	<i>Charadrius hiaticula</i>	BCC5 Red List	No	4	4	2005, 2007, 2013	NBN
Shag	<i>Gulosus aristotelis</i>	BCC5 Red List	No	1	1	2004	NBN
White-tailed Eagle	<i>Haliaeetus albicilla</i>	Wild Birds Directive Annex I, WCA Schedule 1, 1A, and A1, SBL	No	20	20	2000, 2002, 2005, 2013, 2014, 2016, 2017, 2018, 2019, 2021	NBN
Whooper Swan	<i>Cygnus cygnus</i>	Wild Birds Directive Annex I, WCA Schedule 1, SBL	No	3	3	2001, 2018, 2019	NBN

*Not all NBN records contain data on species count. As such, where a record did not contain species count data, a species count of one is applied. I.e., one record will have a species count of one.

7.4 Proposed Approach to the Environmental Impact Assessment

The coastal and marine ornithology EIA will follow the EcIA methodology outlined in **Sub-Section 2.2.2.3**. Where possible, the sensitivity of specific receptors will be defined through review of the Marine Evidence-based Sensitivity Assessment¹⁵ (MarESA) framework, the Feature Activity Sensitivity Tool¹⁶ (FeAST), grey literature (i.e., EIARs for other developments), and scientific literature.

In addition, the following legislation, policy, and guidance will be considered:

- Council Directive 2009/147/EC on the Conservation of Wild Birds (the Wild Birds Directive);
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (The Habitats Regulations);
- Nature Conservation (Scotland) Act 2004;
- Marine (Scotland) Act 2010;
- Wildlife and Countryside Act (WCA) 1981;
- Scottish Biodiversity List (SBL);
- Scottish Priority Marine Features (PMFs) and Marine Protected Area (MPA) Search Features List;
- Birds of Conservation Concern 5 (BCC5); and
- CIEEM: Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.

7.4.1 Data Collection Approach

A DBA has been undertaken to present a baseline condition for coastal and marine ornithology in **Sub-Section 7.3** of this Report. This baseline condition has presented abundance data for the receptors identified within the DSA. The WSA has enabled the identification of designated sites, namely SSSIs.

It is proposed that within the EcIA, the baseline condition will be developed and further refined for the receptors that are identified as Important Ecological Features (IEFs) (see **Sub-Section 7.5**).

Data identified and used for the baseline condition within this Report and scheduled for use in the determination of the EcIA baseline condition is presented in **Table 7.4**.

Table 7.4: Key publicly available data sources for the coastal and marine ornithology baseline condition.

Source	Summary	Spatial Coverage of Proposed Development
NS SiteLink	SiteLink provides easy access to data and information on protected areas across Scotland ranging from sites of local natural heritage to designations of national and international importance.	Full coverage of the WSA and DSA.
National Biodiversity Network (NBN) Atlas: Biological Records	The NBN Atlas is a collaborative project that aggregates biodiversity data from multiple sources and makes it available and usable online. It is the UK's largest repository of publicly available biodiversity data.	Full coverage of the DSA.
Seabird Monitoring Programme (SMP)	The SMP is an ongoing annual monitoring programme, established in 1986, of 25 species of seabird that regularly breed in Britain and Ireland.	Full coverage of the WSA and DSA.
Future of the Atlantic Marine Environment (FAME) and Seabird Tracking and Research (STAR) Seabird Tracking Projects	Spatial data showing the UK level utilisation distributions (UD). UD's are provided in a sequence of 5 % contours for each species starting at the 5 % UD and ending at the 95 % UD. Within the ecological literature the 95 % UD is often used to define the 95 % home range of a species and the 50 % UD is used to define the 50 % core range of a species.	Full coverage of the WSA and DSA.
Non-breeding season populations of seabirds in UK waters ³⁹	Data on the defined seasons for specific species, along with biogeographic population sizes with connectivity to UK waters.	Broadscale.
Operation Seafarer (1969 – 1970)	Operation Seafarer was a census conducted in 1969 – 1970. Coverage was confined to coastal colonies but was thought to be complete apart from gaps in Foula, Shetland and in Caithness. Operation Seafarer provided the first comprehensive, detailed account of the abundance and distribution of seabirds breeding around the coasts of Britain and Ireland.	Broadscale.
Seabird Colony Register (SCR) (1985 – 1988)	The SCR Census of breeding seabirds in Britain was conducted between 1985 and 1988. During the SCR Census around 3,300 coastal sites and 700 inland sites in Britain and Ireland were recorded on the SCR Database. The SCR census provided the second assessment of nationwide trends in seabird numbers.	Broadscale.
Seabird 2000 (1998 – 2002)	The Seabird 2000 census of breeding seabirds in Britain and Ireland was conducted between 1998 and 2002.	Broadscale.
Seabirds Count 2015 – 2022	The Seabirds Count census provides essential information on the UK's internationally important breeding seabird populations. The census surveyed over 10,000 sites covering 25 species between 2015 and the end of the 2022 breeding season.	Broadscale.

³⁹ FURNESS, R.W. 2015. Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Reports, Number 164. [Online] Available at: <https://publications.naturalengland.org.uk/publication/6427568802627584>

7.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key coastal and marine ornithology stakeholders, primarily NS, to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

7.5 Identified Potential Impacts

7.5.1 Zone of Influence

As defined by CIEEM⁹, the Zol for a project is the area over which ecological features may be affected by biophysical changes as a result of the project and the associated impact pathways. This is likely to extend beyond the project, for example where there are ecological or hydrological links beyond the project boundary. The Zol is also likely to vary dependent on specific ecological feature sensitivity to a specific impact pathway. As such it is likely that the Proposed Development will give rise to multiple Zols. A summary of the impact pathways considered relevant to the Proposed Development, and the associated Zol for each impact pathway is provided in **Table 7.5**.

Table 7.5: Summary of the potential impact pathways and the associated Zol of the Proposed Development in relation to coastal and marine ornithology.

Potential Impact Pathway	Zone of Influence	
	Primary Zol (Spatial Extent of Impact)	Secondary Zol (Spatial Extent of Effect)
Entanglement or entrapment in top, pen, or anti-predator netting.	<p>The Zol of entanglement and entrapment is defined by the direct spatial extent of the surface and sub-surface netting deployed at the Proposed Development.</p> <p>Surface Netting Area (lateral and ceiling surface): Per Pen: 3,316.18 m²; and Total: 26,529.44 m².</p> <p>Sub-Surface Netting Area (lateral surface only): Per Pen: 2,879.46 m²; and Total: 23,035.68 m².</p>	<p>Ornithological features typically forage across large distances, as such, there is the potential for individuals from outwith the primary Zol to transit through the primary Zol and therefore be impacted and affected by the impact pathway.</p> <p>As such, there is the potential for effects over a greater spatial extent than the primary Zol. The 10 km radius DSA has been defined to represent the realistic maximum spatial extent of potential impacts on ornithological features.</p>
Disturbance in the vicinity of the Proposed Development and VTR.	<p>The Zol of disturbance is defined by the distance at which an individual would display a response to the source of the disturbance. This distance is often species specific and will vary with ecological sensitivity.</p> <p>The indicative VTR outlines a 3.37 km route from the shorebase to the Proposed Development.</p>	
Direct displacement from the footprint of the Proposed Development.	<p>The Zol of direct displacement is defined by the spatial extent of the infrastructure along with the specific sensitivity of the feature.</p> <p>Spatial Extent of the Proposed Development: Development Area: 0.67 km².</p>	
Loss of, or damage to prey-supporting habitats.	<p>The Zol of loss of, or damage to prey-supporting habitats is defined by the spatial extent of the organic and in-feed deposition mixing zones along with the mooring system (grid and feed barge) footprint.</p> <p>Spatial Extent of Modelled Mixing Zones: Organic material deposition: 206,979 m²; and In-feed deposition: 163,333 m².</p> <p>Spatial extent of the Mooring System: Development Area: 0.67 km².</p>	

7.5.2 Important Ecological Features

In order to better focus the assessment of potential impacts on the ecological features within the EclA, and to help determine whether an ecological feature qualifies as an IEF, a scoping assessment has been undertaken to identify the distinct impact pathways most likely to result in significant effects on the ecological features. As IEFs are those features that are considered both important and potentially affected by the project, it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

The scoping assessment considered the behavioural sensitivity of each ecological feature to the identified impact pathways, the determined abundance and density of each ecological feature within the baseline condition, and the proposed embedded design and operational mitigation. Where impacts on an ecological feature were not predicted to be significant, that ecological feature was scoped out of further assessment. Where the determination of significant effect was uncertain, the precautionary principle was applied, and it is proposed that the feature is scoped in for further assessment.

Table 7.6 summarises the ecological features identified within the baseline condition, outlining whether or not each ecological feature has been classified as an IEF, with the rationale for the decision provided. The importance of the ecological features has been assessed on a project-specific basis.

In **Table 7.6**, where notable ornithological species are categorised based upon the criteria outlined in **Sub-Section 7.3.3**, these species have been considered under a single criteria only to avoid duplication where a species meets multiple criteria. For example Arctic Tern are listed on the Wild Birds Directive Annex I and SBL, however, they have been considered as a Wild Birds Directive Annex I species within **Table 7.6**.

Table 7.6: Summary of IEF scoping assessment for coastal and marine ornithology.

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
St. Kilda SPA and Seas off St. Kilda SPA	International	Local	Construction	Disturbance, as a result of installation activities, in the vicinity of the Development Area	The Proposed Development is within the mean foraging range (120.40 km (+/- 50.00 km) ⁴⁰ of breeding northern gannet from both the St. Kilda SPA and the Seas off St. Kilda SPA, located 81.67 km and 64.88 km to the north-west of the Proposed Development. However, despite this overlap, the DBA failed to identify northern gannet within the DSA.	Scoped Out	No
			Operation	Entanglement or entrapment in top, pen, or anti-predator netting	Likely Significant Effect (LSE) was determined between the Proposed Development and the northern gannet feature of the St. Kilda SPA and the Seas off St. Kilda SPA through the shadow HRA screening assessment (Appendix F). The potential for LSE relates to the potential for northern gannet to become entangled in the top netting of the Proposed Development ⁷ . As such, a Report to inform Appropriate Assessment (AA) (RIAA) will be undertaken and submitted with the final application to satisfy the requirements of the Habitats Regulations.		
				Disturbance in the vicinity of the Proposed Development and VTR			
				Direct displacement from the footprint of the Proposed Development			
				Loss of, or damage to prey-supporting habitats			
Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area	However, in relation to the EIA Regulations, the identified impact pathways are determined to be sufficiently avoided, prevented, and reduced via the embedded mitigation measures outlined in Sub-Section 7.2 . These embedded mitigation measures primarily include the deployment of top netting with a ceiling mesh size of 100 mm and a sidewall mesh size of 75 mm, and the monitoring and reporting of entanglement and entrapment events. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.					
Wild Birds Directive Annex I Birds	International	Local	Construction	Disturbance, as a result of installation activities, in the vicinity of the Development Area	The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature. During installation all project vessel activity will be associated with the Development Area, which has a negligible spatial extent. Project vessels will be moving at slow speeds or will be stationary when onsite. As such, it is determined that this impact pathway is unlikely to result in anything other than insignificant effects.	Scoped Out	No
			Operation	Entanglement or entrapment in top, pen, or anti-predator netting	Nine Wild Birds Directive Annex I bird species were identified within the DSA; Arctic tern, black-throated diver, red-throated diver, common tern, golden eagle, golden plover, peregrine, white-tailed eagle, and whooper swan.	Scoped Out	
				Disturbance in the vicinity of the Proposed Development and VTR		Scoped Out	
				Direct displacement from the footprint of the Proposed Development	Abundance of these Annex I species is generally negligible to low, with the exception of Arctic tern, common tern, peregrine, and white-tailed eagle. The identified impact pathways are determined to be sufficiently avoided and reduced via the embedded mitigation measures outlined in Sub-Section 7.2 , these embedded mitigation measures include, the dVMP, inclusive of the seabird specific vessel management protocols, the commitment to not use anti-predator netting as standard, the deployment of high rigidity primary containment netting (18 mm mesh size) and an effective tensioning system, the	Scoped Out	
				Loss of, or damage to prey-supporting habitats		Scoped Out	

⁴⁰ Woodward, I., Thaxter, C.B., Owen, E and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate. BTO Research Report No. 724. [Online] Available at: <https://www.marinedataexchange.co.uk/>

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
					deployment of top netting with a ceiling mesh size of 100 mm and a sidewall mesh size of 75 mm, and the monitoring and reporting of entanglement and entrapment events. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
			Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area	The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development will be considered by proxy through review, and detailed assessment, if needed, of the impact pathways associated with the construction phase.	Scoped Out	
WCA Schedule 1, 1A, and A1 Birds	National	Local	Construction	Disturbance, as a result of installation activities, in the vicinity of the Development Area	Three WCA Schedule 1, 1A, and A1 birds were identified in the DSA; black-tailed godwit, goldeneye, and pintail.	Scoped Out	No
			Operational	Entanglement or entrapment in top, pen, or anti-predator netting	However, these three species were recorded at negligible abundance within the DSA, and as such it is determined that population level effects on these species are not likely. Moreover, the embedded design and operational mitigation measures, outlined in Sub-Section 7.2 , are determined to sufficiently avoid and reduce the identified impact pathways. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
				Disturbance in the vicinity of the Proposed Development and VTR			
				Direct displacement from the footprint of the Proposed Development			
				Loss of, or damage to prey-supporting habitats			
Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area						
SBL Birds	National	Local	Construction	Disturbance, as a result of installation activities, in the vicinity of the Development Area	Three SBL birds were identified within the DSA; black-headed gull, curlew, and herring gull. Black-headed gull were recorded at negligible abundance. Whilst there are 28 records of curlew within the DSA, this species is typically associated with upland, farmland, wetland, and grassland habitats. During winter curlew also make use of intertidal habitats such as mudflats and saltmarshes. As such, it is determined that there is no connectivity with this species.	Scoped Out	No
			Operational	Entanglement or entrapment in top, pen, or anti-predator netting	Herring gull were recorded at high abundance within the DSA. However, the embedded design and operational mitigation measures, outlined in Sub-Section 7.2 , are determined to sufficiently avoid and reduce the identified impact pathways. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
				Disturbance in the vicinity of the Proposed Development and VTR			
				Direct displacement from the footprint of the Proposed Development			
				Loss of, or damage to prey-supporting habitats			
Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area						
BCC5 Red List Birds	National	Local	Construction	Disturbance, as a result of installation activities, in the vicinity of the Development Area	Two BCC5 Red List birds were identified within the DSA; ringed plover and European shag. Both of these species were recorded at negligible abundance within the DSA, as such it is determined that population level effects on these species are not likely.	Scoped Out	No
			Operational	Entanglement or entrapment in top, pen, or anti-predator netting	Moreover, the embedded design and operational mitigation measures, outlined in Sub-Section 7.2 , are determined to sufficiently avoid and reduce the identified impact pathways. As such, it		
				Disturbance in the vicinity of the Proposed Development and VTR			

Ecological Feature	General Geographic Importance	Importance of the Feature in the Context of the Proposed Development	Development Phase	Potential Impact Pathway	Rationale	Scoping Outcome	IEF (Yes/No)
MPA Search Features List Birds	National	Local		Direct displacement from the footprint of the Proposed Development	is determined that these impact pathways are unlikely to result in anything other than insignificant effects.		
				Loss of, or damage to prey-supporting habitats			
			Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area	Black guillemot were recorded within the DSA. However, they were recorded at negligible abundance within the DSA, as such it is determined that population level effects on these species are not likely. Moreover, the embedded design and operational mitigation measures, outlined in Sub-Section 7.2 , are determined to sufficiently avoid and reduce the identified impact pathways. As such, it is determined that these impact pathways are unlikely to result in anything other than insignificant effects.	Scoped Out	No
			Operational	Entanglement or entrapment in top, pen, or anti-predator netting			
				Disturbance in the vicinity of the Proposed Development and VTR			
				Direct displacement from the footprint of the Proposed Development			
				Loss of, or damage to prey-supporting habitats			
			Decommissioning	Disturbance, as a result of decommissioning activities, in the vicinity of the Development Area			

7.5.3 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 7.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 7.2** is unlikely to have significant effects on the coastal and marine ornithology receptors identified within the study areas. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 7.2**. As such, embedded mitigation measures for coastal and marine ornithology will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 7.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 7.5** further assessment will be undertaken and presented within the EIAR.

8 Commercial Fisheries

8.1 Introduction

This section of the Report identifies the commercial fisheries receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on commercial fisheries and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

8.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on commercial fisheries receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 8.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 8.5**.

Table 8.1: Summary of the embedded mitigation measures and their relevance to the identified impacts of the Proposed Development.

Embedded Mitigation Measure	Description	Relevant Impact Pathways
Proposed Development Lifespan	Whilst the Proposed Development is intended to be operational over the long-term with no defined decommissioning phase defined, the Proposed Development is completely reversible, with no permanent physical impacts on the seascape and navigational safety.	Exclusion, Access, Displacement and Associated Economic Loss; Gear Snagging, Entanglement and Navigational Safety; and Changes to the Local Environment.
Relocation of the Proposed Development	The Proposed Development has been relocated approximately 420 m to the southeast of the location outlined within initial Screening and Scoping Request (22/00282). As a result, the Proposed Development, in the new development location, does not overlap with the narrow section of the southern navigational channel between the islands of Maragaidh Mor and Maragaidh Beag and the drying rock of Bo Mor, and the static gear potting grounds along the northern coastline of Maragaidh Mor and Maragaidh Beag.	Exclusion, Access, Displacement and Associated Economic Loss; Gear Snagging, Entanglement and Navigational Safety; and Changes to the Local Environment.
Development Location	The development location has been selected to minimise disruption and disturbance to other marine users, as best as possible. The hydrographic characteristics of the development location also help to mitigate potential benthic impacts of the Proposed Development.	Exclusion, Access, Displacement and Associated Economic Loss; Gear Snagging, Entanglement and Navigational Safety; and Changes to the Local Environment.
Farm Design and Layout	The Proposed Development will have a small number of larger pens. The rationale for this design and layout decision includes mitigating impacts on other marine users (including commercial fisheries) by proposing an efficient and tidy Development Area.	Exclusion, Access, Displacement and Associated Economic Loss; Gear Snagging, Entanglement and Navigational Safety; and Changes to the Local Environment.
Minimisation of Development Area	To ensure that the Proposed Development covers as small a spatial extent as possible, BFS will work with the mooring design company to ensure the mooring lines are as short as possible, without compromising the ability of the system to withstand the environmental conditions expected at the location.	Exclusion, Access, Displacement and Associated Economic Loss; and Gear Snagging, Entanglement and Navigational Safety.
Navigational Marking and Lighting	The Proposed Development will be marked and lit in accordance with the requirements of the Northern Lighthouse Board (NLB).	Gear Snagging, Entanglement and Navigational Safety.
Registration with United Kingdom Hydrographic Office (UKHO)	The UKHO will be notified of the Proposed Development, if consented, to allow for all nautical charts to be updated with the Proposed Development, to ensure that all mariners are aware of the presence of the Proposed Development.	Gear Snagging, Entanglement and Navigational Safety.
Licence to Deposit Any Substance or Object in the Scottish Marine Area	The SGMD are the regulatory authority for the installation of farming equipment in the marine environment, which they regulate via issuing marine licences, under Part 4 (Marine Licencing) of the Marine (Scotland) Act 2010. The licensing process will ensure that all navigational issues have been fully considered before equipment is deposited on the seabed. An application will be submitted to the MD-LOT for a new Marine Licence for the Proposed Development. The Marine Licence determination process includes a thorough consultation period before the licence is determined to ensure that all the views of relevant stakeholders have been sufficiently considered. The Marine Licence will contain a number of conditions, that specify, for example, any lighting or marking and notification requirements.	Gear Snagging, Entanglement and Navigational Safety.
Marine Vessel Training and Competency Programme	All BFS staff that are responsible for piloting BFS marine vessels will be trained to the relevant level of competency through certified external training programmes.	Gear Snagging, Entanglement and Navigational Safety.
Infrastructure Maintenance	Daily checks on all surface infrastructure will be carried out as part of the routine containment checks, with any maintenance work being commissioned as required. This will ensure that all surface equipment is maintained in a good state of repair and is therefore unlikely to	Gear Snagging, Entanglement and Navigational Safety.

Embedded Mitigation Measure	Description	Relevant Impact Pathways
	<p>become detached during inclement weather. At the end of each production cycle the grid and mooring system will be fully inspected, with maintenance work being commissioned as required. Additionally a full remotely operated vehicle (ROV) survey of the grid and mooring system will be undertaken to determine the condition of all the component parts. In the event that the ROV survey finds that maintenance work is required, this will be commissioned to ensure that the grid and mooring system is operating at full capacity. The ROV survey will also record the co-ordinate positions of the mooring anchors.</p> <p>If the ROV survey finds that the mooring anchors have moved, since installation, to a location outwith the Development Area, BFS will commission a contractor to lift and re-set the anchors within the Development Area.</p>	
Draft Escapes Contingency Plan (dECP)	The dECP (Appendix C), whilst designed to avoid and reduce the potential for escape events, also covers the inspection and maintenance schedule for the Proposed Development. This document designed specifically for the Proposed Development will ensure that all scheduled inspections and maintenance are adhered to, thereby avoiding or reducing the potential for infrastructure to become detached from the Proposed Development.	Gear Snagging, Entanglement and Navigational Safety.
Marine Litter	<p>Through Salmon Scotland's Sustainability Charter, BFS has pledged to prevent farm debris from entering the marine environment and to recover any that has, regardless of the source of the marine debris.</p> <p>Pledge 2.10 states "Take every step possible to avoid marine debris from our farms and recover any items promptly regardless of origin."</p> <p>A dedicated inbox - reportdebris@salmonscotland.co.uk – has been created for reporting marine litter.</p>	Gear Snagging, Entanglement and Navigational Safety.
Data Sharing with Commercial Fisheries Stakeholders	If the Proposed Development is consented, BFS will communicate with all relevant commercial fishery stakeholders and provide co-ordinates on the boundary points of the Development Area and also the specific locations of the mooring lines and anchors to ensure vessels fishing in the vicinity of the Proposed Development are fully aware of potential snagging points. This will allow static gear fishing vessels to manoeuvre safely and set creels within the Development Area, reducing the potential for displacement and exclusion.	<p>Exclusion, Access, Displacement and Associated Economic Loss; and</p> <p>Gear Snagging, Entanglement and Navigational Safety.</p>
Embedded Mitigation Specific to Organic and Chemical Discharges		
Feed Control and Monitoring	Effective feed control and monitoring will reduce feed wastage and minimise the potential for organic deposition beneath the Proposed Development.	Changes to the Local Environment.
Pellet Detection Software	This software aims to reduce the amount of excess feed being distributed to fish, which is anticipated to reduce potential organic deposition impacts on the benthos.	
NewDEPOMOD (NDM) Modelling	NDM modelling for the Proposed Development has been undertaken for both organic and in-feed residue deposition. The outputs indicate compliance to SEPA regulatory criteria. The NDM Modelling Report is provided as Appendix B .	
SEPA CAR Licencing (The Water Environment (Controlled Activities) (Scotland) Regulations 2011)	The Proposed Development will be regulated by SEPA through compliance with the conditions of the CAR Licence.	
Environmental Quality Standards (EQS)	Discharge limits for the Proposed Development represent discharge quantities that have been modelled and show full compliance to the relevant EQSs.	
Fallowing	At present, SEPA require that there is a minimum period of 28 consecutive days between every production cycle during which no commercial species shall be kept onsite. This will help avoid potential impacts for temporary periods.	
Enforcement	Through the Water Environment (Controlled Activities) (Scotland) Regulations 2011, SEPA has enforcement powers to decrease the maximum biomass if a fish farm is deemed to continuously not comply with benthic quality standards.	
Sea Lice Management Strategy (SLMS)	The Proposed Development will be operated in line with the SLMS. The SLMS provides an overarching framework of strategic principles under which sea lice will be managed across all BFS marine fish farms.	
Integrated Sea Lice Management (ISLM) Plan	The Proposed Development will implement the ISLM Plan, which provides guidance on how the SLMS measures are to be implemented. The aim of the ISLM Plan is to actively reduce the use of medicinal products (which will reduce the amount potentially discharged from the Proposed Development).	

8.3 Baseline Condition

8.3.1 Study Area

The Proposed Development is located within the Food and Agriculture Organisation (FAO) Major Fishing Area 27, Subarea 27.6.a. For the purposes of recording fisheries statistics, ICES subarea 27.6.a is divided into ICES statistical rectangles, which measures 1 degree of longitude by 0.5 degrees of latitude, which equates to approximately 30 nm x 30 nm at 60°N.

The Proposed Development is located entirely within ICES rectangle 43E2, the Detailed Study Area (DSA), and only occupies 0.02 % of the marine spatial extent of 43E2. The DSA is shown in **Figure 8.1**. In order to understand fishing activity in the waters adjacent to the Proposed Development, baseline data have also been gathered and analysed for the surrounding area comprised of ICES rectangles 43E2, 43E3, 44E2, and 44E3, the Wider Study Area (WSA), which is also shown in **Figure 8.1**. The justification for defining the WSA is that it aligns with the scale of statistical landings data and covers a wider area than the Proposed Development and DSA, ensuring that potential implications of displacement of fishing activity can be adequately understood.

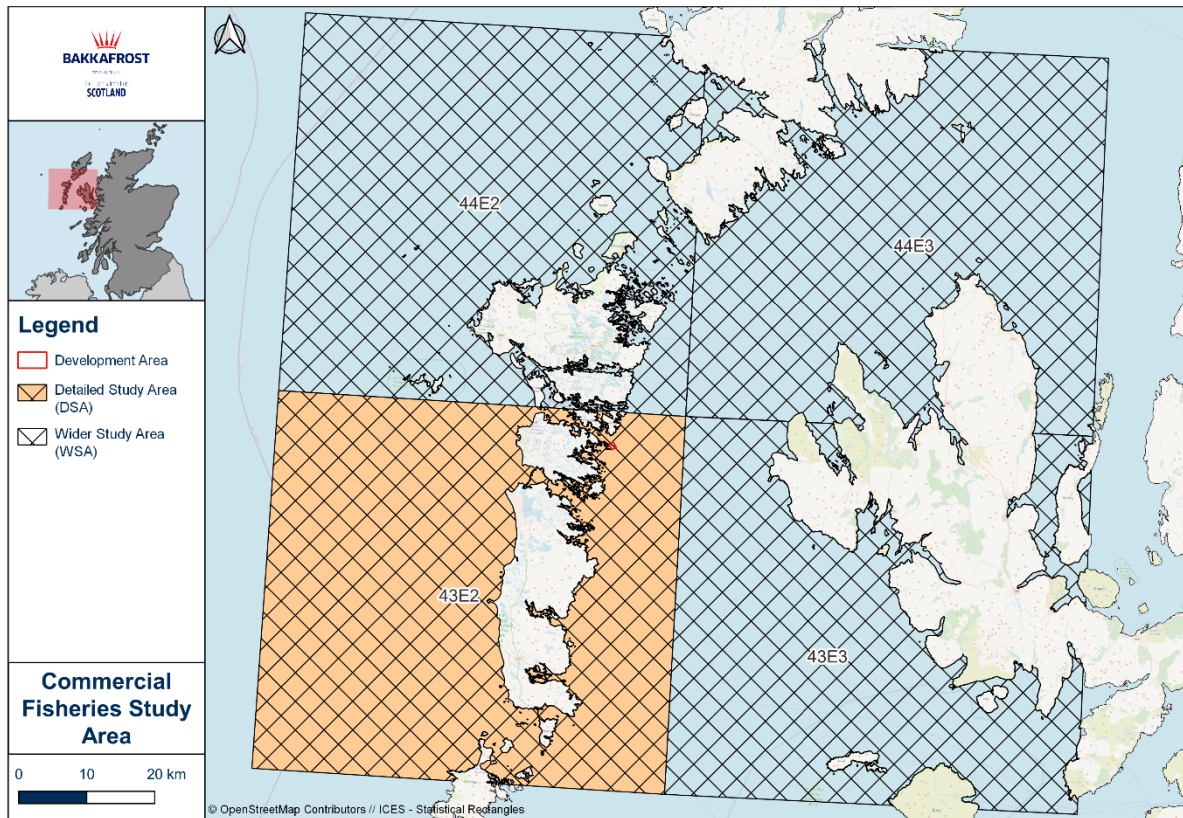


Figure 8.1: Commercial fisheries detailed and wider study area.

8.3.2 Overview of Fishing Activity

Landings from the DSA, by Scottish registered fishing vessels, had a mean annual value of £2,490,257.01 (2019 – 2023 (inclusive)). Based upon Marine Management Organisation (MMO) data for 43E2 (the DSA) the key species caught from 43E2 and likely to be targeted within the Development Area are; brown crab, scallop, velvet crab, lobster, and wrasse (ballan and corkwing).

Figure 8.2 presents the percentage contribution of mean annual landed weight for the key species landed from 43E2 by gear type. These data indicate that 43E2 supports; a significant pots and traps

fishery for velvet crab, brown crab, lobster, and wrasse and a towed dredge fishery for scallop. As such, it is proposed that these commercial fisheries receptors are considered for further assessment within the commercial fisheries EIA.

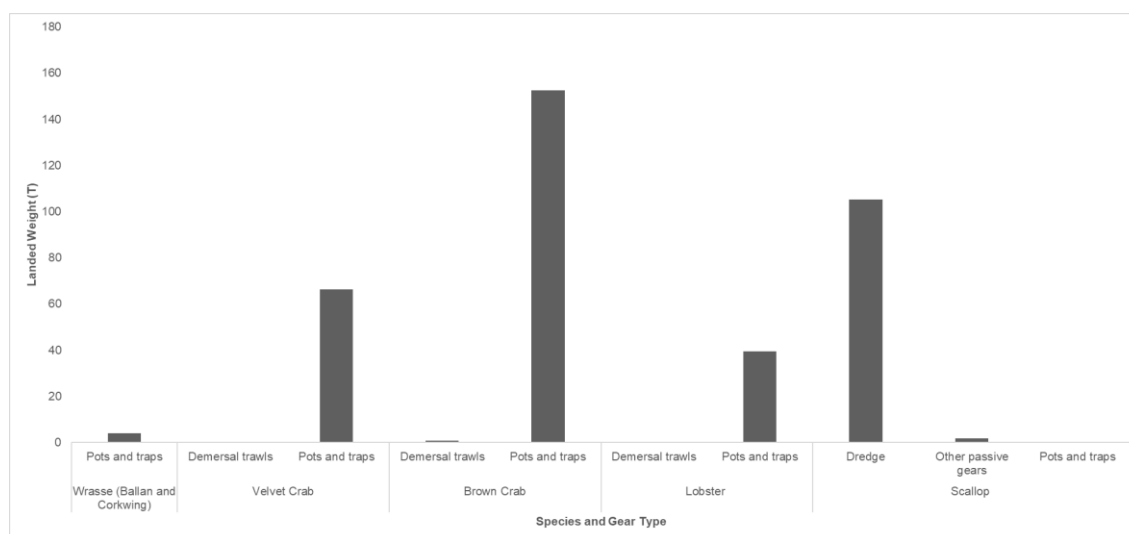


Figure 8.2: Percentage contribution of the mean annual landed weight of key species landed within 43E2 by gear type.

8.4 Proposed Approach to the Environmental Impact Assessment

The commercial fisheries EIA will follow the assessment methodology outlined in **Sub-Section 2.2**. To supplement this assessment methodology, it is proposed that commercial fisheries specific definitions for receptor sensitivity and magnitude of impact will be used.

In addition, the following principal guidance documents will be considered:

- Scotland's Fishing Industry – Guidance for Decision Makers and Developers⁴¹.

8.4.1 Data Collection Approach

A comprehensive DBA will be undertaken as part of the commercial fisheries EIA in order to present a thorough baseline condition. The baseline condition will present data on landings within the DSA and WSA, key species and gear types within the DSA, an analysis of key fishing ports within the DSA, and spatial analysis of fishing activity within the DSA and WSA.

Data identified and planned for analysis to inform this baseline condition is presented in **Table 8.2**.

Table 8.2: Key publicly available data sources for the commercial fisheries baseline condition.

Source	Temporal Period	Summary
Marine Management Organisation (MMO): United Kingdom Sea Fisheries Statistics ⁴²	2019 to 2023 (most recent data will be used)	This dataset provides information on fishing activity for all UK commercial fishing vessel landings plus foreign vessel landings into UK ports.

⁴¹ North Atlantic Fisheries College (NAFC): Scotland's Fishing Industry – Guidance for Decision Makers and Developers. [Online] Available at: <https://fiscot.org/wp-content/uploads/2019/06/FIS014-Guidance-for-Developers.pdf>

⁴² Marine Management Organisation (MMO): UK Sea Fisheries Annual Statistics. [Online] Available at: <https://www.gov.uk/government/collections/uk-sea-fisheries-annual-statistics>

Source	Temporal Period	Summary
		<p>The most recent dataset will be used.</p> <p>Landings data are available for both the 12 m and under and over 12 m fishing fleets.</p>
ICES: 2021 VMS Data Product ⁴³	2010 to 2020	<p>ICES Secretariat has collected relevant VMS and logbook data to produce, as a technical service to OSPAR, updated spatial data layers on fishing intensity / pressure.</p> <p>This dataset covers over 12 m fishing vessels only.</p>
ICES: 2018 VMS Data Product ⁴⁴	2009 to 2017	<p>ICES Secretariat has collected relevant VMS and logbook data to produce, as a technical service to OSPAR, updated spatial data layers on fishing intensity / pressure.</p> <p>This dataset covers over 12 m fishing vessels only.</p>
SGMD: Gridded Fisheries Data within Scottish Waters for Scottish Fishing Vessels 12 m and Under ⁴⁵	2018 to 2022	<p>Catch and sales data linked to the daily fishing position has been extracted from the Compass database for the period 2018 to 2022 within a bounding box of -10W to 0E and 54N to 62N.</p> <p>Provides spatial information on the fishing activity patterns of 12 m and under fishing vessels.</p>
SGMD: ScotMap – Inshore Fisheries Mapping Project in Scotland ⁴⁶	2007 to 2011	<p>Spatial information on the fishing activity of Scottish fishing vessels under 15 m (inclusive of 12 m and under vessels).</p>

⁴³ ICES. 2021. OSPAR request on the production of spatial data layers of fishing intensity/pressure. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, sr.2021.12. [Online] Available at: <https://doi.org/10.17895/ices.advice.8297>

⁴⁴ ICES. 2018. Spatial data layers of fishing intensity/ pressure per gear type for surface and subsurface abrasion, for the years 2009 to 2017 in the OSPAR regions II and III (ver. 2, 22 January, 2019). [Online] Available at: https://ices-library.figshare.com/articles/dataset/OSPAR_request_2018_for_spatial_data_layers_of_fishing_intensity_pressure/18596120?file=33373007

⁴⁵ Scottish Government's Marine Directorate (SGMD): Fishing Statistics - Gridded fisheries data within Scottish waters for Scottish fishing vessels under 12m overall length - annual averages 2018 to 2022. [Online] Available at: https://spatialdata.gov.scot/geonetwork/srv/eng/catalog.search#/metadata/Marine_Scotland_FishDAC_12436

⁴⁶ Scottish Government's Marine Directorate (SGMD): ScotMap - Inshore Fisheries Mapping Project in Scotland. [Online] Available at: <https://marine.gov.scot/information/scotmap-inshore-fisheries-mapping-project-scotland>

Source	Temporal Period	Summary
		ScotMap provides information on the monetary value, relative importance (relative value) and the usage (number of fishing vessels and crew) of seas around Scotland.

8.4.2 Pre-Application Consultation and Engagement

BFS has and will continue to consult and engage with relevant commercial fisheries stakeholders, including:

- Communities Inshore Fisheries Alliance (CIFA);
- Kallin Seafood Ltd. (Namara Seafood);
- Mallaig and Northwest Fishermen's Association (MNWFA);
- Outer Hebrides Regional Inshore Fisheries Group (OHRIFG);
- Scottish Creel Fishermen's Federation (SCFF);
- Scottish Creelers and Divers Association (SCDA);
- Scottish Fishermen's Federation (SFF);
- Scottish Pelagic Fishermen's Association (SPFA);
- Scottish White Fish Producers' Association (SWFPA); and
- Western Isles Fishermen's Association (WIFA).

This pre-application engagement has provided, and will continue to provide, both BFS and the relevant stakeholders with the potential to constructively engage in discussions, with key aspects being fed back into the design of the Proposed Development. A key part of the engagement strategy is to request fine-scale fishing activity data to help inform the EIA and identify important fishing grounds within the DSA and WSA. Where such data are shared with BFS, these data will be used to refine the Proposed Development and will be presented within the EIAR.

In the event that fine-scale fisheries data are not shared through ongoing engagement, BFS will rely on publicly available data to undertake the commercial fisheries EIA.

Full detail on any pre-application communications will be presented within the EIAR.

8.5 Identified Potential Impacts

A range of potential impacts on commercial fisheries receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts are outlined in **Table 8.3**, along with the scoping determination and rationale.

Table 8.3: Scoping determination and rationale for potential impacts on commercial fisheries.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Pots and traps fishery (brown crab, velvet crab, lobster, and wrasse (ballan and corkwing)); and Towed dredge fishery (scallop).	Construction	Snagging gear, entanglement and navigational safety	<p>Prior to the installation work commencing, BFS will ensure compliance to the relevant conditions within the marine licence. This will include notifying the UKHO of the Proposed Development, to allow navigational charts to be updated, the competition and approval of a Marine Emergency Action Card (MEAC), and the issuing of Notice to Mariners (NtMs), including fishermen's organisations to ensure that relevant stakeholders are made fully aware of the installation works and the Proposed Development.</p> <p>Furthermore, prior to the towing of infrastructure, such as the feed barge and the pens, BFS will issue NtMs, to ensure that the relevant stakeholders are aware of the activity.</p> <p>Throughout these towing operations, the towing vessel will be displaying the shapes and lights prescribed in the International Rules for the Prevention of Collisions at Sea (COLREGS) Rule 27 and will be displaying the prescribed shapes and lights when the vessel is restricted in its ability to manoeuvre.</p> <p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.</p> <p>During the installation process, up to three vessels may be present onsite. However, these vessels will either be moving at slow speeds, or be stationary within the Development Area. This limits the potential risk to navigational safety.</p> <p>As such, this impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out
		Pressure on harbour facilities	<p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.</p> <p>During the installation process up to three vessels may be present onsite, working within the Development Area.</p> <p>As such, this impact pathway is unlikely to result in anything other than insignificant effects.</p>	Scoped Out
	Operation	Exclusion, access, displacement and associated economic loss	<p>The installation and subsequent operation of the Proposed Development could potentially result in the reduction of available fishing ground within the marine environment. The spatial extent of potential exclusion is influenced by the level of fishing effort and the method of fishing, with static gear vessels able to work close to, or within the Development Area of the Proposed Development, whilst mobile gear vessels are likely to be excluded from the entire Development Area.</p> <p>The potential reduction in area of fishing ground available to the commercial fishing industry could potentially also result in some degree of economic loss dependent on the relative value of the grounds encompassed by the Proposed Development and the ability of the surrounding fishing grounds to absorb any displaced fishing effort.</p> <p>As such there is the potential for significant effect. Therefore, further assessment is required to determine the magnitude of the potential impact.</p>	Scoped In
		Snagging gear, entanglement and navigational safety	<p>Due to the physical presence of the Proposed Development within waters utilised for commercial fishing there is the potential for physical interaction between the Proposed Development infrastructure and the fishing gear deployed by fishers. The potential for interaction is higher in relation to the sub-surface infrastructure of a fish farm, with mooring lines and anchors extending out from the surface infrastructure.</p> <p>As such there is the potential for significant effect. Therefore, further assessment is required to determine the magnitude of the potential impact.</p>	Scoped In
		Change to the local environment	<p>The Proposed Development, through the SEPA CAR Licence will be permitted to discharge the following medicants into the water environment:</p> <ul style="list-style-type: none"> SLICE (active ingredient: Emelectin Benzoate (EmBz)); 	Scoped Out

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
			<ul style="list-style-type: none"> • Salmosan (active ingredient: Azamethiphos); and • Alphamax (active ingredient: Deltamethrin). <p>Whilst the Proposed Development will prioritise the use of non-medicinal interventions, such as combined gill health and sea lice freshwater interventions and mechanical interventions for sea lice removal. The licenced medicants are anticipated to make up part of the ISLM Plan. These medicants have the potential to negatively impact arthropod crustacea, and therefore shellfish stocks, within the immediate area, if discharge is unregulated and above the relevant EQSs.</p> <p>However, as part of the SEPA CAR Licence application process, BFS will undertake detailed NDM and three-dimensional (3D) marine modelling, which will be audited by SEPA, to determine quantities of the above medicines that meet the required EQSs. The CAR Licence will have conditions, that must be complied with, that stipulate the approved quantities of the medicines that can be discharged from the Proposed Development.</p> <p>SEPA will refuse to grant an authorisation for proposed discharges of bath medicines where:</p> <ul style="list-style-type: none"> • The relevant EQSs will not be met; or • An insufficiently diluted plume is likely to interact with, and pose a risk to the conservation status of, protected species or habitats; or • Adversely affect the interests of other users of the marine environment (including commercial fisheries). <p>As such, BFS believe that this impact pathway is adequately considered and mitigated through the SEPA regulatory framework. Therefore, this impact pathway is unlikely to result in anything other than insignificant effects.</p>	
		Pressure on harbour facilities	<p>The Proposed Development is likely to result in the addition of a single 9 m polarcirkel. As the Proposed Development will make use of the existing fleet of landing craft workboats that service the existing farms of Maragay Mor and Maaey an additional landing craft is not likely to be required.</p> <p>The additional marine vessel activity associated with the operation of the Proposed Development may have the potential to impact on commercial fisheries that land into Kallin, when activity is concentrated at Kallin harbour. Potential impacts may include increased congestion at periods of peak use, reduced berthing space, and reduced harbourside space due to storage of equipment.</p> <p>As such there is the potential for significant effect. Therefore, further assessment is required to determine the magnitude of the potential impact.</p>	Scoped In
	Decommissioning	Snagging gear, entanglement and navigational safety	The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development will be considered by proxy through review, and detailed assessment, if needed, of the impact pathways associated with the construction phase.	Scoped Out
		Pressure on harbour facilities		Scoped Out

8.5.1 Summary of EIA Scope

Based upon the scoping assessment undertaken in **Sub-Section 8.5**, it is proposed that the commercial fisheries receptors and impact pathways detailed in **Table 8.4** are scoped into the EIA and assessed further.

Table 8.4: Summary of the receptors and impact pathways scoped into the commercial fisheries EIA.

Receptor	Development Phase	Impact Pathway	Scoping Outcome
Pots and traps fishery (brown crab, velvet crab, lobster, and wrasse (ballan and corkwing)); and Towed dredge fishery (scallop).	Operation	Exclusion, access, displacement and associated economic loss	Scoped In
	Operation	Snagging gear, entanglement and navigational safety	
	Operation	Pressure on harbour facilities	

9 Navigation and Shipping

9.1 Introduction

This section of the Report identifies the navigation (recreational and non-recreational) and shipping receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified navigation and shipping receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

This section should be read in conjunction with:

- **Section 8: Commercial Fisheries.**

9.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on navigation and shipping receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 9.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 9.5**.

Table 9.1: Summary of the embedded mitigation measures relevant to navigation and shipping.

Embedded Mitigation Measure	Description	Relevance
Proposed Development Lifespan	Whilst the Proposed Development is intended to be operational over the long-term with no decommissioning phase defined, the Proposed Development is completely reversible, with no permanent physical impacts on the seascape and navigational safety.	Navigational access and safety
Spatial Scale of the Proposed Development	<p>Whilst the Proposed Development will represent the addition of surface and sub-surface infrastructure into the marine environment, the spatial extent of the Proposed Development is negligible, particularly when viewed in the wider context of the seascape.</p> <p>The Development Area of the Proposed Development is anticipated to cover 0.67 km². However, as the design of the Proposed Development progresses there may be scope to further reduce the spatial extent of the Development Area. If this is possible, it will be clearly identified with the EIAR.</p>	Navigational access and safety
Development Location	The development location has been selected to minimise disruption and disturbance to other marine users.	Navigational access and safety
Farm Design and Layout	The Proposed Development will have a small number of larger pens. The rationale for this design and layout decision includes mitigating impacts to other marine users by proposing an efficient and tidy Development Area.	Navigational access and safety
Navigational Marking and Lighting	The Proposed Development will be marked and lit in accordance with the requirements of the Northern Lighthouse Board (NLB).	Navigational access and safety
Licence to Deposit Any Substance or Object in the Scottish Marine Area	<p>The SGMD are the regulatory authority for the installation of farming equipment in the marine environment, which they regulate via issuing marine licences, under Part 4 (Marine Licencing) of the Marine (Scotland) Act 2010. The licensing process will ensure that all navigational issues have been fully considered before equipment is deposited on the seabed.</p> <p>An application will be submitted to the MD-LOT for a new Marine Licence for the Proposed Development. The Marine Licence determination process includes a thorough consultation period before the licence is determined to ensure that all the views of relevant stakeholders have been sufficiently considered. The Marine Licence will contain a number of conditions, that specify, for example, any lighting or marking and notification requirements.</p>	Navigational access and safety
Registration with United Kingdom Hydrographic Office (UKHO)	The UKHO will be notified of the Proposed Development, if consented, to allow for all nautical charts to be updated with the licensed area, defined through the marine licence, of the Proposed Development, to ensure that all mariners are aware of the presence of the Proposed Development.	Navigational access and safety
Marine Emergency Action Card (MEAC)	BFS will complete and submit a MEAC to the Maritime and Coastguard Agency (MCA) for approval prior to the commencement of the installation and subsequent long-term operation of the Proposed Development. This will provide His Majesty's (HM) Coastguard with specific detail on the infrastructure present at the Proposed Development and will facilitate safe and effective incident co-ordination should search and rescue operations be undertaken within the vicinity of the Proposed Development.	Navigational access and safety
Notice to Mariners (NtMs)	As a condition of the Marine Licence, and as best practice, BFS will issue local notification to marine users, to ensure that they are made fully aware of the commencement of the installation and operation of the Proposed Development.	Navigational access and safety
Marine Vessel Training and Competency Programme	All BFS staff that are responsible for piloting BFS marine vessels will be trained to the relevant level of competency through certified external training programmes.	Navigational access and safety
Infrastructure Maintenance	<p>Daily checks on all surface infrastructure will be carried out as part of the routine containment checks, with any maintenance work being commissioned as required. This will ensure that all surface equipment is maintained in a good state of repair and is therefore unlikely to become detached during inclement weather. At the end of each production cycle the surface grid and mooring system will be fully inspected, with maintenance work being commissioned as required. Additionally a full remotely operated vehicle (ROV) survey of the sub-surface grid and mooring system will be undertaken to determine the condition of all component parts. In the event that the ROV survey finds that maintenance work is required, this will be commissioned to ensure that the grid and mooring system is operating at full capacity. The ROV survey will also record the co-ordinate positions of the mooring anchors.</p> <p>If the ROV survey finds that the mooring anchors have moved, since installation, to a location outwith the Development Area, BFS will commission a contractor to lift and reset the anchors within the Development Area.</p>	Navigational access and safety

Embedded Mitigation Measure	Description	Relevance
Draft Escapes Contingency Plan (dECP)	The dECP (Appendix C) whilst designed to avoid and reduce the potential for escape events, also covers the inspection and planned preventative maintenance (PPM) schedule for the Proposed Development. This document, designed specifically for the Proposed Development, will ensure that all scheduled inspections and maintenance are adhered to. Thereby, avoiding or reducing the potential for infrastructure to become detached from the Proposed Development.	Navigational access and safety
Marine Litter	<p>Through Salmon Scotland's Sustainability Charter, BFS has pledged to prevent farm debris from entering the marine environment and to recover any that has, regardless of the source.</p> <p>Pledge 2.10 states "Take every step possible to avoid marine debris from our farms and recover any items promptly regardless of origin."</p> <p>A dedicated inbox - reportdebris@salmonscotland.co.uk – has been created for reporting marine litter.</p>	Navigational access and safety

9.3 Baseline Condition

9.3.1 Study Area

Two study areas have been defined. The Detailed Study Area (DSA) is defined as the spatial extent of the Development Area. The Wider Study Area (WSA) is defined as a 5 km radius around the Proposed Development, the WSA is anticipated to help provide important contextual information when determining the baseline condition. The two study areas are illustrated in **Figure 9.1**.

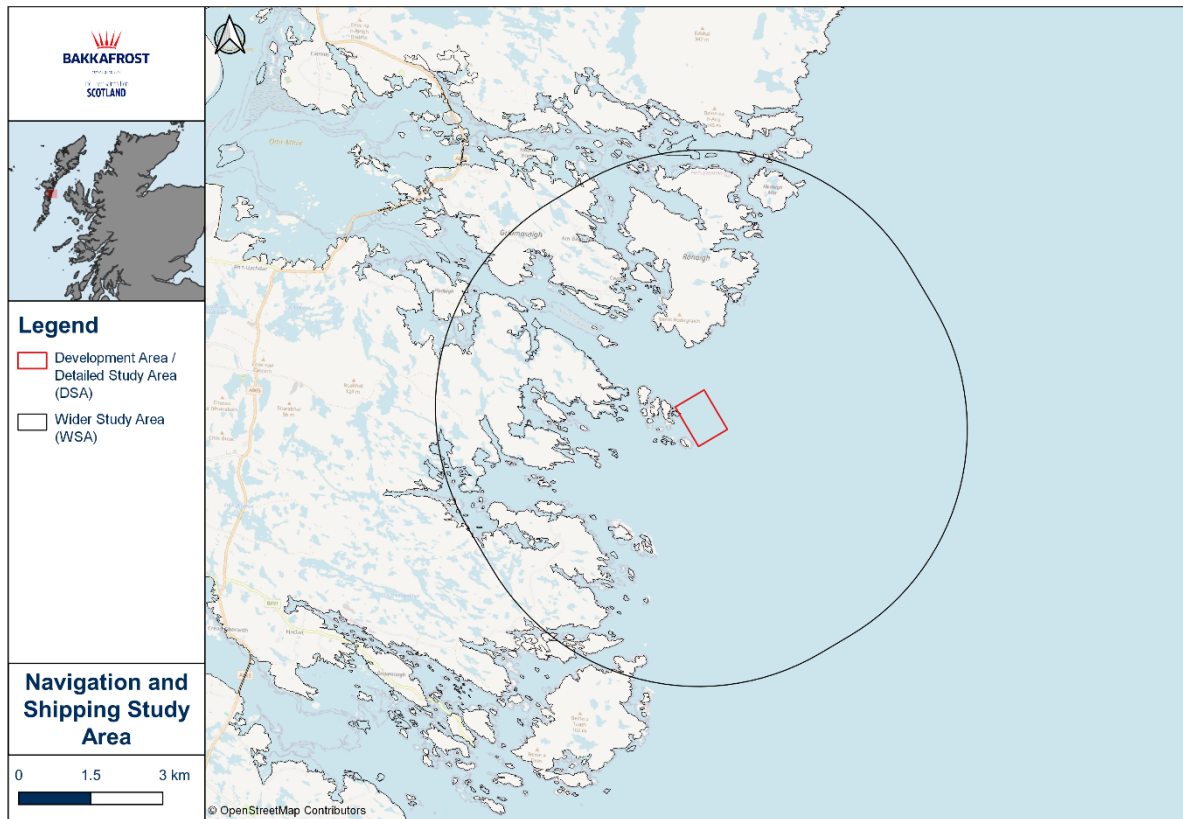


Figure 9.1: Illustration of the navigation and shipping study areas.

9.3.2 Navigational Channels and Routes

9.3.2.1 Navigation Channels (Recommended Routes and Fairways)

Navigational Channels, fairways and buoyed areas around and within ports are primarily used to guide shipping movements. Analysis of spatial⁴⁷ data failed to identify any navigational channels within the DSA or WSA.

As such, this receptor is scoped out of further assessment.

9.3.2.2 International Maritime Organisation (IMO) Traffic Routing Schemes

The IMO are responsible for ship routing on an international scale. The IMO has established traffic separation schemes and other ship routing systems in most of the major congested, shipping areas of the world, including within Scottish waters. Spatial analysis of IMO ship routing schemes⁴⁸ has been undertaken and failed to identify any schemes in place within either the DSA or the WSA.

As such, this receptor is scoped out of further assessment.

⁴⁷ NMPi: Navigation channels (Recommended Routes and Fairways). [Online] Available at: <https://marine.gov.scot/maps/782>

⁴⁸ NMPi: IMO - Traffic Routing Schemes. [Online] Available at: <https://marine.gov.scot/maps/574>

9.3.2.3 Scottish Ferry Routes

A review was undertaken for all passenger and vehicle Scottish ferry routes⁴⁹, from start to end terminal. No Scottish ferry routes were identified within either the DSA or the WSA.

As such, this receptor is scoped out of further assessment.

9.3.3 Ports and Harbours: Statutory Harbour Limits

Spatial analysis of the statutory limits of harbour authorities⁵⁰ around Scotland has been undertaken. This analysis identified the Kallin harbour within the WSA, this harbour is managed by CnES. However, neither the Kallin harbour, nor any other harbour or port, was identified as overlapping with the DSA.

9.3.4 Ministry of Defence (MOD) Activity

The Proposed Development will be located within military practice area X5724: WIAY⁵¹, which is used as a submarine exercise area, and practice and exercise area for the surface fleet. Analysis of Automated Identification System (AIS) spatial data⁵² for military and law enforcement vessels indicates no activity within the DSA or the WSA.

BFS will undertake pre-application consultation with the MOD to ensure that potential constraints are adequately considered. Any consultation will be detailed within the EIAR.

9.3.5 Anchorages

A review of anchor berths and anchorage areas within the DSA and WSA has been undertaken, making use of publicly available data⁵². No anchor berths or anchorage areas were identified within the DSA.

However, within the WSA, a number of anchorage areas have been identified. To the extreme north of the WSA, within the sheltered waters off the north coast of the Isle of Ronay, there is an anchorage. To the northwest of the Proposed Development there is an anchorage associated with Kallin harbour and two additional anchorages within the southeastern approaches to Kallin harbour. To the southwest of the Proposed Development there is an anchorage within the bay to the north of Fuidhaidh Beag, and an additional two anchorages within the sheltered waters of Loch Uiskevagh. To the southern extreme of the WSA, there is an anchorage within the sheltered waters of sea inlet near or Creagastrom.

9.3.6 Sub-Sea Cables

A review of sub-sea telecommunication and power cables has been undertaken, utilising publicly available datasets^{53,54}. This review failed to identify any sub-sea cables within either the DSA or the WSA.

As such, this receptor is scoped out of further assessment.

⁴⁹ NMPi: Scottish Ferry Routes (Indicative courses) (WMS). [Online] Available at: <https://marine.gov.scot/maps/1353>

⁵⁰ NMPi: Ports and Harbours - Statutory harbour limits. [Online] Available at: <https://marine.gov.scot/maps/841>

⁵¹ NMPi: Defence (Military) - Military exercise areas and danger areas (PEXAs). © British Crown and OceanWise, 2024. All rights reserved. License No. EK001 - 20140401. Not to be used for Navigation. [Online] Available at: <https://marine.gov.scot/maps/518>

⁵² NMPi: Anchor berths and anchorage areas. © British Crown and OceanWise, 2024. All rights reserved. License No. EK001 - 20140401. Not to be used for Navigation. [Online] Available at: <https://marine.gov.scot/maps/1006>

⁵³ NMPi: Subsea Telecommunication Cables (KIS-ORCA) (hidden below 1:25,000). [Online] Available at: <https://marine.gov.scot/maps/519>

⁵⁴ NMPi: Subsea Power Cables (KIS-ORCA) (hidden below 1:25,000). [Online] Available at: <https://marine.gov.scot/maps/443>

9.3.7 Maritime Vessel Traffic

A review of maritime vessel activity within the DSA and WSA has been undertaken. This analysis utilised a spatial dataset on vessel density⁵⁵, which provides mean annual densities for a number of different vessel types. These data illustrate vessel density in 1 km x 1 km cells, with density expressed as hours per km².

The following vessel types have been considered within this analysis:

- Tanker;
- Cargo;
- Passenger;
- Tug and towing;
- High speed craft⁵⁸; and
- Dredging or underwater operations⁵⁶;
- Service⁵⁷;
- Other;
- Pleasure craft;
- Sail boats.

Figure 9.2 illustrates the annual vessel densities for the discrete vessel types. As can be seen, there is limited activity within the DSA, with slightly higher densities within specific areas in the WSA. Cargo, tug and towing, and other vessels are associated with the existing fish farm operations off the east coast of the Isle of Benbecula, as these vessel type categories cover fish farm workboats, service vessels, and fish carriers (wellboats). High densities of pleasure craft vessels were identified in association with Kallin harbour, the western channel between the Benbecula mainland and Maragaidh Beag, the waters of Loch Uiskevagh, and the sea inlet to the southeast of the Isle of Benbecula. These distinct locations correlate to the locations of anchorage areas within the WSA (**Sub-Section 9.3.5**). Sailboat densities are negligible within the DSA, but within the WSA higher densities are associated with the anchorage areas to the northwest of the Isle of Ronay, Kallin, and Loch Uiskevagh. There is also an identifiable channel of lower densities of pleasure craft and sailboats off the east coast, that runs in a northeast to southwest orientation.

Based upon these data it is determined that vessel types regularly occurring within the DSA and WSA are cargo, tug and towing, other, and recreational vessels. These vessel types will be considered further within **Sub-Section 9.5**.

⁵⁵ EMODnet Human Activities, Vessel Density Map (AIS Data from CLS). [Online] Available at: <https://emodnet.ec.europa.eu/geonetwork/srv/eng/catalog.search#/metadata/0f2f3ff1-30ef-49e1-96e7-8ca78d58a07c>

⁵⁶ No dredging or underwater operations were identified within the DSA or the WSA. Therefore, this category has been excluded from the imagery in **Figure 9.2**.

⁵⁷ No activity for the service vessel type was identified within the DSA or the WSA. Therefore, this category has been excluded from the imagery in **Figure 9.2**.

⁵⁸ No activity for the high speed craft vessel type was identified within the DSA or the WSA. Therefore, this category has been excluded from the imagery in **Figure 9.2**.

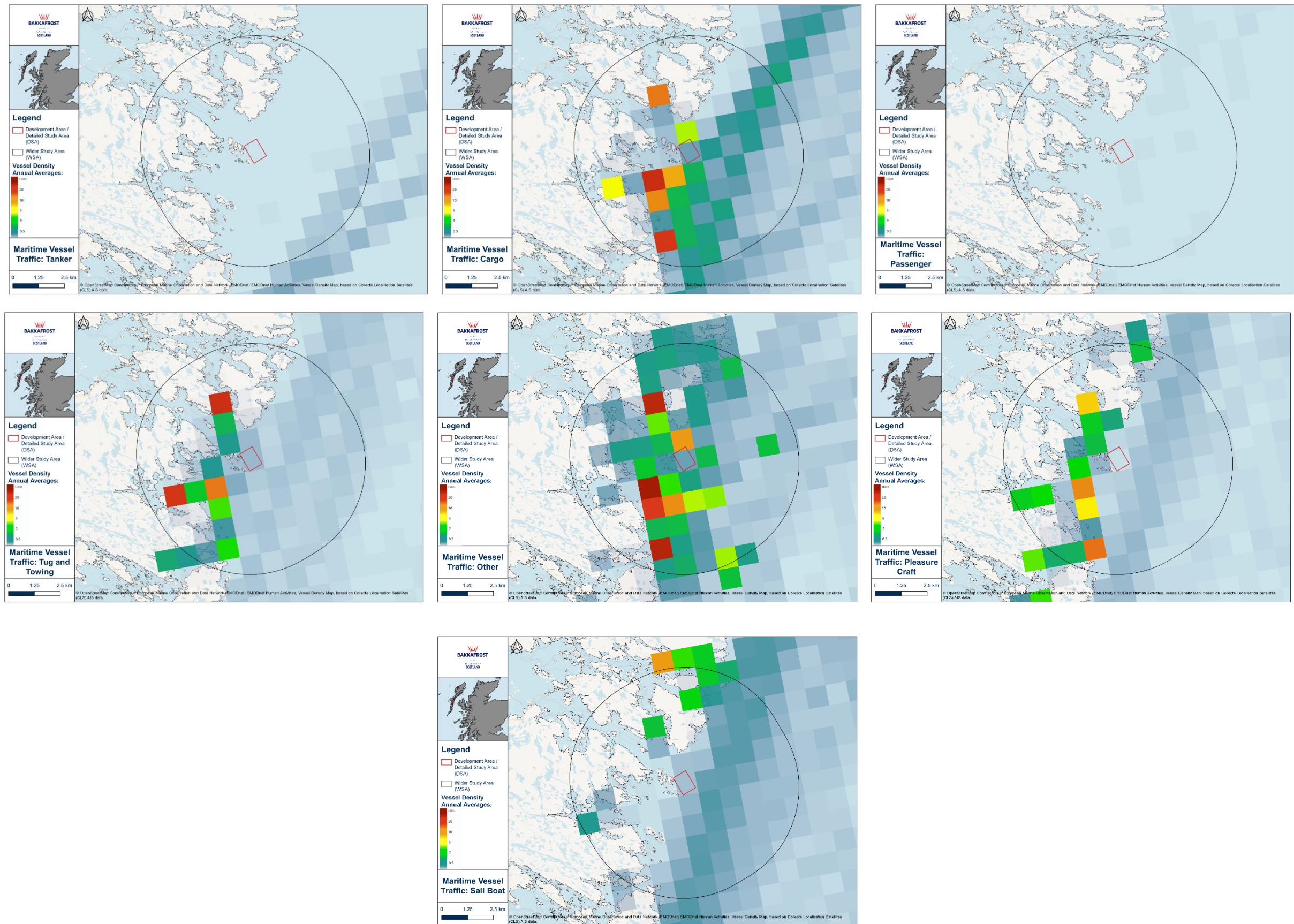


Figure 9.2: Mean annual vessel density, by vessel type, within the DSA and WSA.

9.4 Proposed Approach to the Environmental Impact Assessment

The navigation and shipping EIA will follow the assessment methodology outlined in **Sub-Section 2.2**.

9.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to determine the navigation (recreational and non-recreational) and shipping baseline condition within this Report. It is determined that no additional analysis is required to identify potential navigation and shipping receptors within the DSA and WSA.

Data identified and utilised for analysis within this Report is presented in **Table 9.2**.

Table 9.2: Key publicly available data sources for the non-recreational navigation and shipping baseline condition.

Source	Summary	Spatial Coverage
NMPi: Navigation channels (Recommended Routes and Fairways)	Spatial data for navigational channels, fairways and buoyed areas around / within ports that are used for the purposes of guiding shipping movements.	Available at national level, full coverage of DSA and WSA.
NMPi: IMO - Traffic Routing Schemes	Spatial data for IMO traffic routing measures in Scottish waters.	Available at national level, full coverage of DSA and WSA.
NMPi: Scottish Ferry Routes (Indicative courses) (WMS)	Spatial data on Scottish passenger and vehicle ferry routes.	Available at national level, full coverage of DSA and WSA.
NMPi: Ports and Harbours - Statutory harbour limits	Spatial data showing the statutory limits of harbour authorities around Scotland.	Available at national level, full coverage of DSA and WSA.
EMODnet Human Activities, Vessel Density Map (AIS Data from CLS)	Spatial data showing mean vessel density for discrete vessel types.	International coverage, full coverage of DSA and WSA.
NMPi: Defence (Military) - Military exercise areas and danger areas (PEXAs)	Spatial data showing the locations of MOD exercise and danger areas within Scottish waters.	Available at national level, full coverage of DSA and WSA.
NMPi: Anchor berths and anchorage areas	Spatial data showing the anchorages that have been designated and where a harbour / port authority may request a vessel to anchor.	Available at national level, full coverage of DSA and WSA.
NMPi: Subsea Telecommunication Cables (KIS-ORCA) (hidden below 1:25,000)	Spatial data showing the location of sub-sea telecommunication cables.	Available at national level, full coverage of DSA and WSA.
NMPi: Subsea Power Cables (KIS-ORCA) (hidden below 1:25,000)	Spatial data showing the location of sub-sea power cables.	Available at national level, full coverage of DSA and WSA.

9.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key navigation and shipping stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

9.5 Identified Potential Impacts

A range of potential impacts on navigation (recreational and non-recreational) and shipping receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 9.3**, along with the scoping determination and rationale.

Table 9.3: Scoping determination and rationale for potential impacts on non-recreational navigation and shipping.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
<p>Ports and Harbours: Statutory Harbour Limits;</p> <p>Ministry of Defence (MOD);</p> <p>Anchorage; and</p> <p>Maritime Vessel Traffic.</p>	Construction	Increased vessel to structure collision risk	<p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature. During installation all project vessel activity will be associated with the Development Area, which has a negligible spatial extent. Project vessels will be moving at slow speeds or will be stationary when onsite. The Development Area is also outwith the primary northern transit channel into Kallin harbour.</p> <p>As detailed within Sub-Section 9.2, prior to the commencement of installation activities, BFS will ensure compliance to all pre-commencement conditions within the Marine Licence, including providing notification to UKHO, issuing NtMs to local marine users, and submitting a MEAC to MCA.</p> <p>Therefore, as a result of the limited temporal extent of the installation phase, the limited activity of the identified receptors within the DSA, and the best practice embedded mitigation measures, it is determined that the identified impacts pathways are unlikely to result in anything other than insignificant effects.</p>	Scoped Out
		Increased vessel to vessel collision risk		
		Vessel traffic displacement		
	Operation	Increased vessel to structure collision risk	<p>Maritime vessel traffic within the DSA and WSA is principally limited to cargo, tug and towing, and other vessel type classifications which cover vessels associated with existing fish farm operations in the local area. This is in addition to the recreational vessel activity (sailboat and pleasure craft), primarily associated with the anchorages areas within the WSA. Data indicates that sailboats currently transit through the DSA, but at negligible densities (0.12 average hours per km²) in comparison to other locations within the WSA (Figure 9.2). Whereas pleasure craft vessels do not transit through the DSA, but instead have high densities within the WSA associated with the location of anchorage areas. Therefore, despite the Proposed Development's location within the vicinity of Kallin harbour, the exact positioning of the Proposed Development, within an exposed and deep water location off the east coast of the Isle of Benbecula, has helped reduce the potential for interactions with recreational and non-recreational marine traffic not associated with fish farm operations.</p> <p>Whilst the Proposed Development would be located within military exercise area X5724: WIAY, analysis of AIS data for military and law enforcement vessels identified no activity within either the DSA or the WSA. As such, it is determined that MOD activity in the vicinity of the Proposed Development is negligible. As such, potential impacts and effects on MOD activity are scoped out of further consideration.</p> <p>The baseline assessment identified a number of anchorage areas within the WSA. However, the Proposed Development was determined to be sufficiently distant from the identified anchorages to not impact upon navigational access and safety of vessels moored at the anchorages or transiting to and from the anchorage areas. As such, potential impacts and effects on MOD activity are scoped out of further consideration.</p> <p>Navigational access and safety risks during the operational phase are determined to be effectively mitigated through the embedded mitigation outlined within Sub-Section 9.2, specifically the issuing of a Marine Licence for the Proposed Development along with full compliance to the conditions listed within the licence, including navigational lighting and marking requirements.</p> <p>As such, it is determined that the identified impacts pathways are unlikely to result in anything other than insignificant effects.</p>	Scoped Out
		Increased vessel to vessel collision risk		
		Vessel traffic displacement		
	Decommissioning	Increased vessel to structure collision risk	<p>The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development will be considered by proxy through review, and detailed assessment, if needed, of the impact pathways associated with the construction phase.</p>	Scoped Out
		Increased vessel to vessel collision risk		
		Vessel traffic displacement		

9.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 9.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 9.2** is unlikely to have significant effects on the navigation (recreational and non-recreational) and shipping receptors identified within the study areas. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 9.2**. As such, embedded mitigation measures for navigation and shipping will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 9.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 9.5** further assessment will be undertaken and presented within the EIAR.

10 Seascape, Landscape, and Visual Assessment

10.1 Introduction

This section of the Report identifies the seascape, landscape and visual receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

10.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on seascape, landscape, and visual receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 10.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 10.5**.

Table 10.1: Summary of the embedded mitigation measures relevant to seascape, landscape and visual.

Embedded Mitigation Measure	Description	Relevance
Development Location	<p>The development location for the Proposed Development has been selected within an open and expansive coastline area of the Isle of Benbecula, the Outer Hebrides, with the seascape expanding out into the Minch.</p> <p>NatureScot (NS) guidance on ‘The siting and design of aquaculture in the landscape: visual and landscape considerations’⁵⁹ details the key characteristics of open and expansive coasts and the considerations, and potential benefits, for the siting and layout of aquaculture development in this type of coastline.</p>	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Siting	The Proposed Development will be orientated parallel to the dominant coastline with open and expansive views out to sea, which are dominated by the horizontal. This is anticipated to reduce the overall magnitude of impacts associated with the Proposed Development.	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Pens	<p>A small number of larger pens helps to reduce the amount of infrastructure required to farm the proposed biomass.</p> <p>The pens will be low profile and will be finished in a dark grey or matte black colour, this will help reduce the overall magnitude of impacts associated with the Proposed Development.</p>	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Feed Barge	A feed barge is planned for deployment at the Proposed Development, which is likely to be matte grey in colour. This colouration is anticipated to help the feed barge recede into the surrounding seascape and landscape. The matte grey colouration should allow the feed barge to blend into the grey, rocky shoreline and coastal fringe when viewed from locations which provide a landform background. When viewed from locations which provide a large-scale seascape horizon as the background, the matte grey colouration is likely to help absorb and blend the feed barge in the expensive seascape under certain ambient conditions.	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Low Profile Infrastructure	Surface infrastructure will have a low profile design, where possible, which is anticipated to allow the surface infrastructure to be accommodated within the wider context of the seascape and landscape.	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Bird Nets	The Proposed Development will make use of a pole mounted top net system. The utilisation of this pole mounted system avoids the need for the traditional hamster wheel support, within each pen, over which the top netting would be draped. Therefore, due to the avoidance of the need for the hamster wheel system, it is anticipated that the pole mounted system will help reduce the overall magnitude of impact, through a reduction in surface infrastructure.	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Navigational Lighting and Marking	<p>The Proposed Development will be marked and lit in accordance with the requirements of the NLB.</p> <p>No other navigational markings or lighting will be utilised at the Proposed Development. Moreover, outwith operational periods all operational lighting will be extinguished.</p>	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>
Underwater Lighting	<p>The decision on whether to deploy underwater lighting during a production cycle will be made by the Area Manager, the Head of Marine Production, and the Biology Director.</p> <p>Dependent on stocking times, the worst case scenario for the use of underwater lighting would be from input during quarter (Q) 4 through to June the following year. However, the stocking time of the Proposed Development has not been finalised, and may also vary year on year, so in reality the use of underwater lighting may be for a much reduced temporal period in comparison to the worst case scenario.</p> <p>It is proposed that low energy, long life 500 W LED lights will be used, with up to six lights deployed per pen. The lighting will be installed at a depth of 6 m within all pens stocked with fish and directed downwards into the pens and not offsite.</p>	<p>Impacts of seascape and landscape; and</p> <p>Impacts on visual amenity.</p>

⁵⁹ NatureScot (November 2011) The siting and design of aquaculture in the landscape: visual and landscape considerations. Prepared by Alison Grant, Landscape Architect. Available online at: <https://www.nature.scot/sites/default/files/2017-07/Publication%202011%20-%20The%20siting%20and%20design%20of%20aquaculture%20in%20the%20landscape%20-%20visual%20and%20landscape%20considerations.pdf>

10.3 Baseline Condition

10.3.1 Study Area

The Wider Study Area (WSA) covers a 10 km radius from the Proposed Development and includes the coastline from Loch Euphort to the north at Rubha Mhic Gille-mhicheil to Bagh nam Faoileann in the south. Beyond this distance, the Proposed Development is unlikely to be perceptible within the landscape due to its limited scale, low profile, and the reduction of visual effects over distance.

A Detailed Study Area (DSA) has also been adopted, based on a 5 km radius from the Proposed Development to focus on the areas where the greatest seascape, landscape, and visual impacts may occur. Beyond the 5 km DSA there is a lack of visibility for sensitive receptors due to the local topography of the coastline.

A 3 km radius has also been proposed for the assessment of residential properties due to the very lightly settled landscape, to include the nearest properties to the north of the Proposed Development near Kallin.

These study areas have been defined based upon the outputs of the preliminary Zone of Theoretical Visibility (ZTV) and are shown in **Figure 10.1**. The ZTV output and metadata are provided in **Appendix A**.

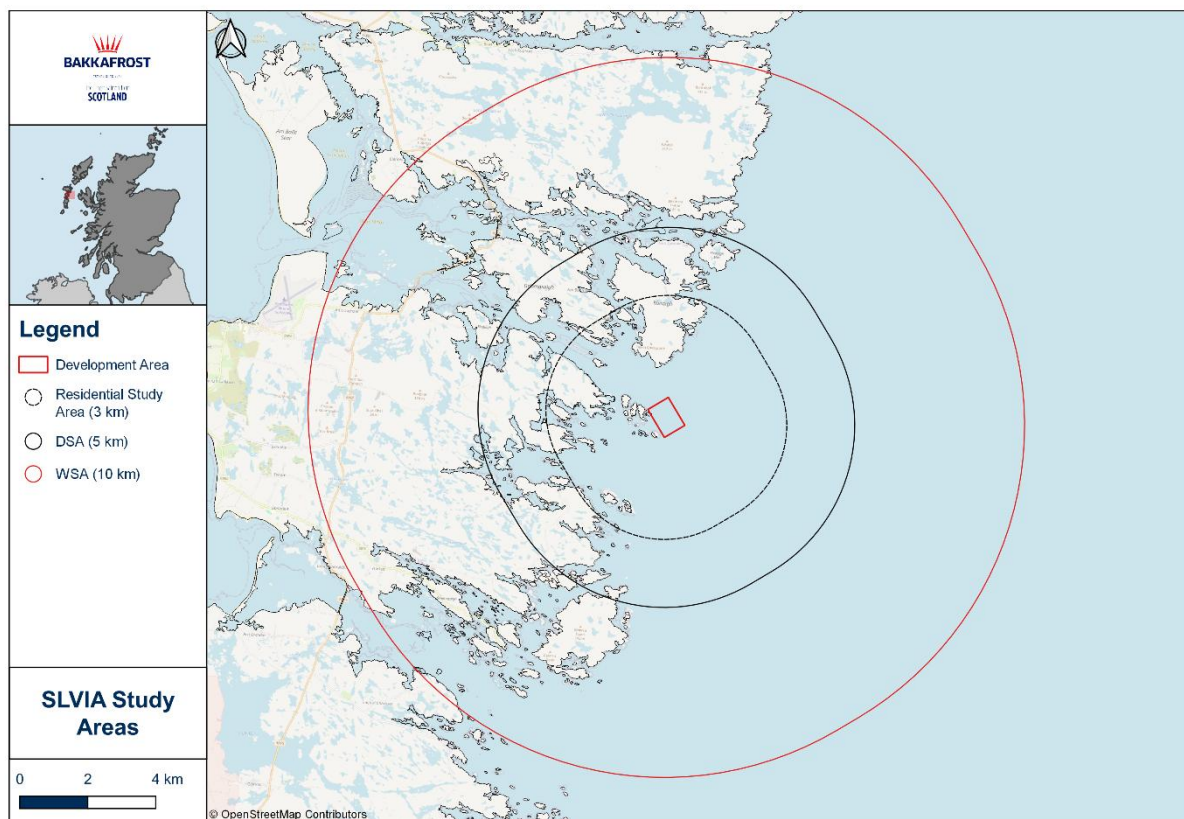


Figure 10.1: Proposed study areas for the SLVIA.

10.3.2 Seascape and Landscape Character

Within the DSA there are three Landscape Character Types (LCTs). However, given the distinctive undulating rocky coastline topography, there would be limited opportunity for visibility and intervisibility of the Proposed Development within large areas of the landscape of the DSA. The preliminary ZTV

(Appendix A) illustrates this limited visibility. Therefore, the Boggy Moorland LCT 322 has been scoped out of further assessment due to lack of predicted visibility within this landscape.

Therefore, it is proposed that the SLVIA will focus on the following LCT within the DSA:

- Rocky Moorland LCT 323; and
- Dispersed Crofting LCT 319.

10.3.2.1 Landscape Character

The closest onshore LCT to the Proposed Development is the Rocky Moorland LCT 323 at Rossinish to the south and west, and the Isle of Ronay to the north. It is the dominant LCT within the DSA.

The Dispersed Crofting – Lewis, Harris, The Uists and Barra LCT (LCT 319) occurs around the coastline of the Isle of Grimsay within the DSA. The Dispersed Crofting LCT is of a diminutive size within the DSA and there is very little predicted visibility except around the coastline near Kallin and St Michael's Point. Figure 10.2 provides an illustration of the distribution of the identified LCTs within the DSA.

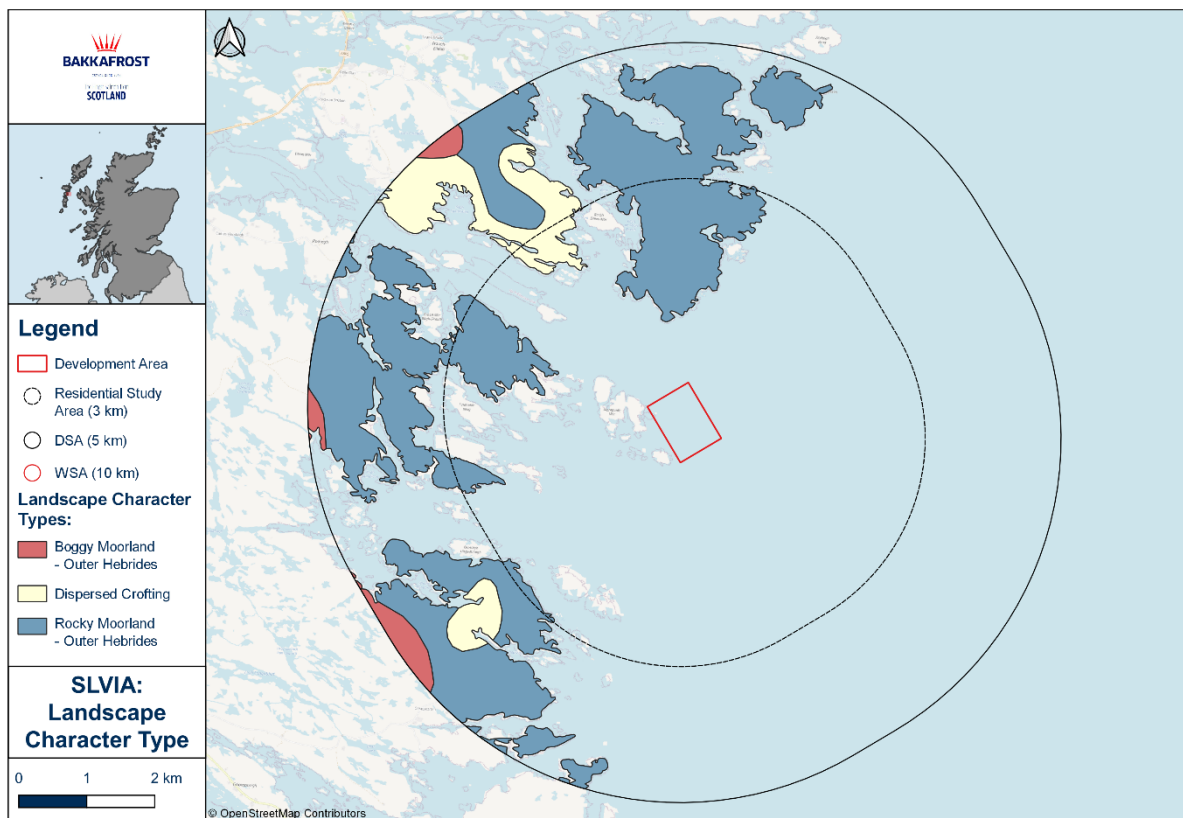


Figure 10.2: Spatial distribution of the LCTs identified within the WSA.

10.3.2.2 Seascape Character

Seascape character assessment comprises three elements of hinterland, coastal and marine seascape character types within the NS Commissioned Report No. 103 – An assessment of the sensitivity and capacity of the Scottish Seascape in relation to windfarms (NatureScot, 2005)⁶⁰. Whilst this document

⁶⁰ Scott, K.E., Anderson, C., Dunsford, H., Benson, J.F. and MacFarlane, R. (2005).

An assessment of the sensitivity and capacity of the Scottish seascape in relation to offshore windfarms. Scottish Natural Heritage Commissioned Report No.103 (ROAME No. F03AA06). [Online] Available at: <https://www.nature.scot/sites/default/files/2017-07/Publication%202005%20-%20SNH%20Commissioned%20Report%20103%20-%20An%20assessment%20of%20the%20sensitivity%20and%20capacity%20of%20the%20Scottish%20seascape%20in%20relation%20to%20windfarms.pdf>

focuses on capacity and sensitivity for wind farm development, the seascape character area (SCA) descriptions are a useful reference for the Proposed Development.

Within the DSA, the coastline lies within Area 14: The Little Minch, and specifically the Low Rocky Island Coasts Seascape Character Type (SCT) 13, and the Seascape Unit 14 – The Little Minch.

The Low Rocky Island Coasts is the “host” area of the seascape character within which the Proposed Development will be located. This character type extends along the entire coastline.

10.3.3 Landscape Designations

There are no designated landscapes within the WSA. The Proposed Development is located within an undesignated landscape / seascape.

10.3.4 Visual Receptors and Visual Amenity

The visual assessment will draw from the ZTV, site visits and viewpoint analysis and will assess the potential visual effects on views and visual amenity likely to be experienced by receptors (people) within the landscape as follows:

- Views from residential properties and settlements;
- Views experienced while travelling through the seascape and landscape (recreational road users, walkers, horse riders, cyclists, and kayakers for example); and
- Views from tourist and recreational destinations.

Visual effects would be experienced by the people who live and work in the area, along with those enjoying recreational activities in this area or simply passing through. Whilst it is people who are the actual receptors of visual effects, it is the places they may occupy, and from which the Proposed Development may be seen, that are listed in **Table 10.2**.

Table 10.2: Summary of the visual receptors identified within the study areas.

Visual Receptors	
Residential Properties and Settlements	To the extreme northwest of the 3 km residential properties study area is the settlement of Kallin. Residential properties associated within Kallin are located in a linear development fashion along the only road that connects Kallin with the A865 to the west. A number of these properties would not experience a view of the Proposed Development from the properties nor the access track leading to the properties. The rocky / undulating coastal terrain would screen views to the southeast. Therefore eight residential properties are proposed to be scoped into the SLVIA (Appendix A).
Transport Routes	Transport routes which pass within the DSA (5 km) of the Proposed Development are the local roads and farm / property access tracks. There are no 'A' or 'B' roads within the DSA. There are local 'C' roads connecting Kallin to the A865 ~9 km to the west.
Recreational Receptors	<p>Visual impacts on tourists, or those participating in recreation activities, may be brief in nature by passing through the area on boat, ferry, horse, foot, bike or kayak, their sensitivity to landscape and visual change is high because their purpose / activity is to appreciate landscape and surroundings.</p> <p>The visual assessment will consider views from recreational receptors within the DSA (5 km) of the Proposed Development. Nearby recreational receptors within the DSA include:</p> <ul style="list-style-type: none"> • The core path network – Core Path 22 west of the Proposed Development; • Wider path network – local routes northwest and west of the Proposed Development; • Creel Yard Camping Pods northwest of the Proposed Development; • Kallin harbour seafood restaurant northwest of the Proposed Development; and • Sea based activities, including kayak routes around the islands / islets along the coastline.

10.3.5 Visualisations

Baseline photographs, wirelines and photomontage visualisations will be prepared in accordance with NS guidance, as established in NS (2018) Visualisations for Aquaculture – Guidance Note⁶¹. Visualisations will be presented for all selected viewpoints within the SLVIA.

10.3.6 Viewpoint Selection

A preliminary viewpoint list is shown in **Table 10.3**. The locations of the viewpoints are shown in **Figure 10.3**, with the preliminary ZTV output overlayed. The final, confirmed viewpoints will be established through fieldwork and the scoping process and in agreement with the CnES and NS.

The preliminary viewpoints were selected to represent sensitive visual receptors with the potential to undergo significant effects, the locations have been informed by the outputs of the preliminary ZTV. The proposed viewpoints were also selected to represent seascape and landscape receptors and with consideration of the potential for cumulative effects to arise.

⁶¹ NS. Visualisations for Aquaculture. Guidance Note. February 2018. [Online] Available at: <https://www.nature.scot/sites/default/files/2018-02/Visualisations%20for%20Aquaculture%20-%20Guidance%20%20Note.pdf>

Table 10.3: Proposed viewpoints for the SLVIA.

Viewpoint ID	Viewpoint Location	Easting	Northing	Comments
1	Headland near St. Michael's Point, south of Kallin.	87978	854847	This is a VP to illustrate the landscape and seascape context and views from an area of open land, along the coastline, northwest of the Proposed Development at St Michael's Point. The VP is in proximity to a holiday let property and is within the Dispersed Crofting LCT.
2	Kallin Harbour (on causeway)	88163	855313	This is a VP to illustrate the landscape and seascape context and views from an open area, on the slipway, within Kallin harbour, northwest of the Proposed Development. The fish processing buildings and a residential property are visible on the south side of the bay. This VP is within the Dispersed Crofting LCT.
3	Rossinish coastline	87476	853704	This is a VP to illustrate the landscape and seascape context and views from a remote, rocky coastline west-northwest of the Proposed Development. There are no promoted paths / routes to access the coastline directly, it is located beyond Core Path 22 which is over 1 km west of the VP location. This coastline may be visited by recreational receptors on kayak. The VP is within the Rocky Moorland - Outer Hebrides LCT.
4	Water based view south of the Isle of Ronay	89640	853303	This is a VP to illustrate the seascape context and views from the sea north of the Proposed Development. The VP is representative of the views for water-based receptors, which would include kayakers, and leisure sailing boats, and this is also the channel or route for working boats and sailing boats to Kallin harbour. The VP is within the Low Rocky Island Coasts SCT.
5	Kallin, local road northwest of the harbour	88105	855418	This is a VP to illustrate the landscape and seascape context and views from an elevated location on the local road network in Kallin, adjacent to the harbour, northwest of the Proposed Development. The VP is also representative of the view from the front elevation of a residential property. The VP is within the Dispersed Crofting LCT.

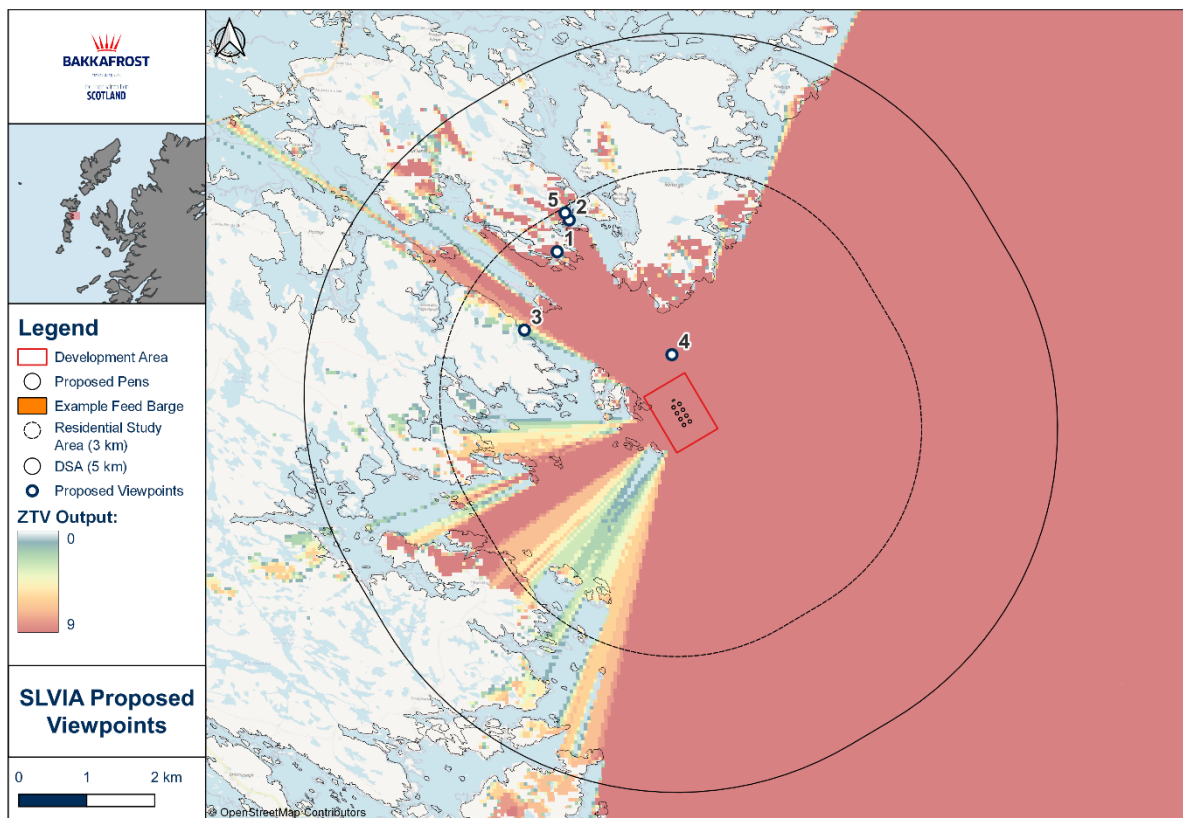


Figure 10.3: Location of the proposed viewpoints within the study area, with the predicted visibility from the preliminary ZTV overlaid.

10.4 Proposed Approach to the Environmental Impact Assessment

The SLVIA methodology will follow the ‘Guidelines for Landscape and Visual Impact Assessment’ Third Edition (GLVIA3)¹⁰. As recommended by GLVIA3, this is not a generic SLVIA methodology, but one that will be tailored to be proportionate to the nature and location of the Proposed Development.

The level of seascape, landscape and visual effect (and whether this is significant) will be determined through consideration of the ‘sensitivity’ of:

- The seascape, landscape element, assemblage of elements, key characteristics or character type or area under consideration bearing in mind quality and value; or
- The visual receptor; and
- The ‘magnitude of change’ posed by the Proposed Development, in this case the construction of a fish farm, the operational life of a fish farm and its associated infrastructure, and subsequent decommissioning.

The process involves design and re-assessment of any remaining, residual significant adverse effects that could not otherwise be mitigated or ‘designed out’. Landscape or visual sensitivity is ranked from high, medium, low to negligible and the magnitude of change is similarly ranked from large, medium, small to negligible as indicated in **Table 10.4**. The type of effect is also considered and may be direct or indirect, temporary or permanent, cumulative, and positive, neutral or negative. The SLVIA involves a combination of both quantitative and subjective assessment and wherever possible will seek to gain a consensus of professional opinion through consultation, peer review and the adoption of a systematic, impartial, and professional approach.

In accordance with EIA Regulations, it is essential to determine whether the predicted effects are likely to be 'significant'. Significant seascape, landscape and visual effects resulting from the Proposed Development would be all those effects that normally result in a '**major**', a '**moderate – major**', or '**moderate**' effect (**Table 10.4**), with any exceptions being clearly explained.

Table 10.4: Matrix for determining level of effect.

		Sensitivity (value / importance)			
		High	Medium	Low	Negligible
Magnitude of change	Large	Major	Moderate – Major	Minor – Moderate	Negligible
	Medium	Moderate – Major	Moderate	Minor	Negligible
	Small	Minor – Moderate	Minor	Negligible – Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

The full detailed SLVIA methodology will be presented within the SLVIA, which will be submitted in support of the final application.

10.4.1 Data Collection Approach

A preliminary baseline condition has been presented in **Sub-Section 10.3**. This baseline condition will be further developed through the EIA process. A number of different sources of information will be used to help understand the Proposed Development's location and its surrounding context as follows:

- NS (2023) Scottish Landscape Character Types, Map and Descriptions⁶²;
- NS Commissioned Report No. 103 – An assessment of the sensitivity and capacity of the Scottish Seascape in relation to windfarms (SNH, 2005)⁶³;
- Scotland's National Marine Plan (2015)⁶⁴;
- Scotland National Planning Framework 4 (NPF4)⁶⁵;
- CnES Outer Hebrides Local Development Plan (LDP) (2018)⁶⁶;
- OS mapping at 1:50,000, 1:25,000 and 1:10,000;
- Aerial Photography;
- Google Earth, Street View and Maps; and
- Strava Global Heatmap⁶⁷.

10.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key stakeholders, primarily CnES and NS, to ensure that their views are considered within the design and

⁶² NatureScot. Scottish Landscape Character Types Map and Descriptions. [Online] Available at: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

⁶³ NatureScot: An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms. [Online] Available at: <https://www.nature.scot/doc/naturescot-commissioned-report-103-assessment-sensitivity-and-capacity-scottish-seascape-relation>

⁶⁴ Scottish Government: Scotland's National Marine Plan, 2015. [Online] Available at: <https://www.gov.scot/publications/scotlands-national-marine-plan/>

⁶⁵ Scottish Government: National Planning Framework 4, 2023. [Online] Available at: <https://www.gov.scot/publications/national-planning-framework-4/>

⁶⁶ CnES: Outer Hebrides Local Development Plan, adopted November 2018. [Online] Available at: <https://cne-siar.gov.uk/wp-content/uploads/2024/01/Outer-Hebrides-Local-Development-Plan-2018.pdf>

⁶⁷ Strava: Global Heatmap. [Online] Available at: <https://www.strava.com/maps/global-heatmap?sport=All&style=satellite&terrain=false&labels=true&poi=true&qColor=bluered&qOpacity=100#9/37.7749/-122.4194>

operation of the Proposed Development. Pre-application engagement will focus on the agreement of viewpoints to be used within the SLVIA.

Full detail on any pre-application communications will be presented within the EIAR.

10.5 Identified Potential Impacts

A range of potential impacts on seascape, landscape and visual receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 10.5**, along with the scoping determination and rationale.

Table 10.5: Scoping determination and rationale for potential impacts on seascape, landscape and visual amenity.

Table 10.1: Scoping determination and rationale for potential impacts on seascape, landscape and visual amenity.				
Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Seascape; Landscape; and Visual Receptors.	Construction	Impacts on the seascape resource	The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.	Scoped Out
		Impacts on the landscape resource	The construction / installation phase will primarily involve the towing of the pens and the feed barge to the Development Area, along with the installation of the mooring system. It is likely that during the installation phase of the Proposed Development three vessels will be onsite, working at low speeds in association with the Development Area. As the installation phase progresses, infrastructure, (i.e., the Proposed Development), will be introduced into the seascape and therefore have a direct impact on the seascape resource and indirect impacts on the landscape resource. However, the Proposed Development, as installed, will persist over the long-term during the operational phase, where the same impact pathways will exist.	
		Impacts on Visual Amenity		
	Operation	Impacts on the seascape resource	Impact pathways associated with the operational phase of the Proposed Development are anticipated to persist over the long-term, as the Proposed Development has no defined decommissioning date.	Scoped In
		Impacts on the landscape resource	It is proposed that operational impacts on the seascape, landscape, visual amenity will be assessed through a full SLVIA undertaken by a highly experienced, third-party consultancy.	
		Impacts on Visual Amenity	The proposed viewpoints, detailed in Sub-Section 10.3.6 , have been selected to inform the SLVIA. The full SLVIA will be undertaken and provided in support of the final planning application.	
	Decommissioning	Impacts on the seascape resource	The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development can be scoped out of further assessment.	Scoped Out
		Impacts on the landscape resource		
		Impacts on Visual Amenity		

10.5.1 Summary of EIA Scope

Based upon the scoping assessment undertaken in **Sub-Section 10.5**, it is proposed that the receptors and impact pathways detailed in **Table 10.6** are scoped into the EIA and assessed further through the SLVIA.

Table 10.6: Summary of the receptors and impact pathways scoped into the seascape, landscape and visual EIA.

Receptor	Development Phase	Impact Pathway	Scoping Outcome
Seascape;	Operational	Impacts on the seascape resource	Scoped In
Landscape; and		Impacts on the landscape resource	
Visual Amenity.		Impacts on Visual Amenity	

11 Socio-Economics

11.1 Introduction

This section of the Report identifies the socio-economic receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified socio-economic receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

11.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to maximise positive impacts on socio-economic receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 11.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 11.5**.

Table 11.1: Summary of the embedded mitigation measures relevant to socio-economic impacts.

Embedded Mitigation Measure	Description	Relevance
Local Sourcing	<p>BFS actively encourage local suppliers (Scottish based) to tender for new developments as well as regular maintenance work. This can vary in value from the millions down to hundreds of pounds, across all areas of operations. BFS's mean annual spend (2022 – 2023) on Scottish based suppliers was £141,010,025 across 640 local suppliers.</p> <p>Within the Outer Hebrides BFS's mean annual spend (2022 – 2023) was £4,277,940 across 118 local suppliers. Across the Isles of North Uist, Benbecula and South Uist BFS's mean annual spend (2022 – 2023) was £1,043,877 across 16 local suppliers.</p>	Socio-economic impact
Local Staffing	The Proposed Development is anticipated to create a minimum of five new full time positions. BFS will aim, if possible, to fill these positions locally. This will help stimulate local economic activity, whilst also potentially attracting young families and individuals to the area.	Socio-economic impact
Community Fund	BFS have a Community Fund initiative in place, whereby external organisations and charities, either based within or delivering projects within a 20 mile radius of any BFS fish farm can apply directly for up to £10,000 funding. This programme allows the local communities, within which BFS operates, to gain additional benefit from fish farming operations.	Socio-economic impact

11.3 Baseline Condition

11.3.1 Study Area

Three reference study areas have been selected for the assessment of socio-economic impacts. The three study areas are as follows:

- **Local:** Due to the Proposed Development sitting on the boundary of two electoral wards, the local study area is defined as both the Uibhist A Deas, Eirisgeigh Agus Beinn Na Faoghla electoral ward and the Uibhist A Tuath electoral ward;
- **Regional:** The regional study area is defined as the Outer Hebrides council area; and
- **National:** The national study area is defined as Scotland.

While much of the analysis will focus on the Local Study Area, it is essential to broaden out the impact assessment to ensure consideration of potential impacts and effects on socio-economic receptors within the Regional and National Study Areas.

11.3.2 Profile of the Local Study Area

11.3.2.1 Population

National Records of Scotland (NRS) data⁶⁸ indicate that on 30 June 2021, the electoral ward of Uibhist A Deas, Eirisgeigh Agus Beinn Na Faoghla had a population of 3,067. The Uibhist a Tuath electoral ward, as of 30 June 2021, had a total population of 1,616.

Within Scotland, the working age cohort is defined as the population aged between 16 and 64 (inclusive). Based on this definition, the Uibhist A Deas, Eirisgeigh Agus Beinn Na Faoghla electoral ward has a working age population of 1,770, which represents 57.71 % of the total population for the electoral ward. The 65+ cohort accounted for 24.91 % (764) of the population and the below 16 cohort accounted for 17.38 % (533) of the population. The Uibhist a Tuath electoral ward has a working age population of 924, which represents 57.18 % of the total population for the electoral ward. The 65+ cohort accounted for 30.26 % (489) of the population and the below 16 cohort accounted for 12.56 % (203) of the population.

11.3.2.2 Employment

At the time of undertaking this Report, the 2022 Scotland census data have not been published. Therefore, the 2011 Scotland census data were utilised to provide the baseline condition for employment within the local study area. CnES has produced profiles for Benbecula and North Uist, based on the 2011 census data⁶⁹. Whilst these data do not fully represent the Uibhist A Deas, Eirisgeigh Agus Beinn Na Faoghla electoral ward, they are considered to provide an outline of the employment within the local study area.

Out of the total Isle of Benbecula population (1,330), at the time of the 2011 census, 989 people were aged between 16 and 74. Of these 989 people, 78.87 % (780) were economically active. Of the 780 economically active people, 47.00 % were in full-time employment, which was higher than the average for the Outer Hebrides (39.40 %).

Out of the total North Uist population (1,619), at the time of the 2011 census, 1,235 people were aged between 16 and 74. Of these 1,235 people, 70.20 % (867) were economically active. Of the 867

⁶⁸ National Records for Scotland (NRS): Electoral Ward Population Estimates (2011 Data Zone Based). [Online] Available at: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/2011-based-special-area-population-estimates/electoral-ward-population-estimates>

⁶⁹ Comhairle nan Eilean Siar (CnES). 2011 Census Statistics. Benbecula. [Online] Available at: <https://www.cne-siar.gov.uk/media/5558/benbecula-profile.pdf>

economically active people, 36.50 % were in full-time employment, which was slightly less than the average for the Outer Hebrides (39.40 %).

11.4 Proposed Approach to the Environmental Impact Assessment

The socio-economic EIA will follow the assessment methodology outlined in **Sub-Section 2.2**.

11.4.1 Data Collection Approach

Socio-economic data will be collected from a number of publicly available datasets, this will be supplemented with BFS spend data to characterise the socio-economic contribution of existing BFS fish farm operations within the study areas. This approach is considered appropriate in order to sufficiently characterise the baseline condition within the defined study areas.

11.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key socio-economic stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

11.5 Identified Potential Impacts

A range of potential impacts on socio-economic receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 9.3**, along with the scoping determination and rationale.

Table 11.2: Scoping determination and rationale for potential socio-economic impacts.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Employment; and Local, Regional, and National Economy.	Construction	Economy (labour market and Gross Value Added (GVA)) including direct, indirect and induced	The initial construction and installation of the Proposed Development will result in significant capital expenditure (CAPEX). However, this CAPEX is also associated with operational expenditure (OPEX) as a result of operation of the Proposed Development as well as ongoing CAPEX throughout the lifecycle of the Proposed Development. Moreover, the construction and installation phase of the Proposed Development is anticipated to persist over the short-term and be temporary in nature. As a result, the decision has been taken to combine the potential socio-economic impacts of the construction (and decommissioning) and operational phases together, due to the intrinsic connection between these phases, and assess the potential socio-economic impact of the Proposed Development on a holistic basis, under the operational phase.	Scoped In
	Operation			
	Decommissioning			

11.5.1 Summary of EIA Scope

Based upon the scoping assessment undertaken in **Sub-Section 11.5**, it is proposed that the socio-economic receptors and impact pathways detailed in **Table 11.3** are scoped into the EIA and assessed further.

Table 11.3: Summary of the receptors and impact pathways scoped into the socio-economic EIA.

Receptor	Development Phase	Impact Pathway	Scoping Outcome
Employment; and Local, Regional, and National Economy	Construction, operation, and decommissioning (to be assessed together)	Economy (labour market and Gross Value Added (GVA)) including direct, indirect and induced	Scoped In

12 Marine and Terrestrial Cultural Heritage

12.1 Introduction

This section of the Report identifies the marine and terrestrial cultural heritage receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified marine and terrestrial cultural heritage receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

12.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on marine and terrestrial cultural heritage receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 12.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 12.5**.

Table 12.1: Summary of the embedded mitigation measures relevant to marine and terrestrial cultural heritage.

Embedded Mitigation Measure	Description	Relevant Impact Pathways
Development Location	<p>There are limited marine and terrestrial cultural heritage assets within the vicinity and none within the Development Area.</p> <p>The development location is within an area of open and expansive coast within outer Loch na Keal. In this environment larger structures can be more easily accommodated.</p>	<p>Direct disturbance and / or damage to cultural heritage assets;</p> <p>Increased sedimentation on cultural heritage assets; and</p> <p>Indirect impacts on the setting of cultural heritage assets.</p>
Low Impact Installation Methodology	No piling will be required when laying and setting the mooring system for the Proposed Development. Instead plough anchors will be placed and embedded on the seabed. This will limit the amount of resuspended sediment.	<p>Direct disturbance and / or damage to cultural heritage assets; and</p> <p>Increased sedimentation on cultural heritage assets.</p>
NewDEPOMOD (NDM) Modelling	NDM modelling for the Proposed Development has been undertaken for both organic and in-feed residue deposition. The outputs indicate compliance to SEPA regulatory criteria. The NDM Modelling Report is provided as Appendix B .	Increased sedimentation on cultural heritage assets.
Farm Design and Layout	<p>The Proposed Development will make use of a small number of larger pens. The pens will be low profile and will be finished in a dark grey or matte black colour, this will help reduce the overall magnitude of impacts associated with the Proposed Development.</p> <p>The feed barge will likely be matte grey in colour. This colouration is anticipated to help the feed barge recede into the surrounding seascape and landscape, as the matte grey colouration is likely to blend into the grey, rocky shoreline and coastal fringe observed within the region.</p>	Indirect impacts on the setting of cultural heritage assets.
Navigational Lighting and Marking	The Proposed Development will be marked and lit in accordance with the requirements of the Northern Lighthouse (NLB) requirements.	Indirect impacts on the setting of cultural heritage assets.

12.3 Baseline Condition

12.3.1 Study Area

Two study areas have been defined for the assessment of marine and terrestrial cultural heritage receptors. The Detailed Study Area (DSA) is defined as the spatial extent of the Development Area. The Wider Study Area (WSA) is defined as a 5 km buffer around the Development Area. The study areas are illustrated in **Figure 12.1**.

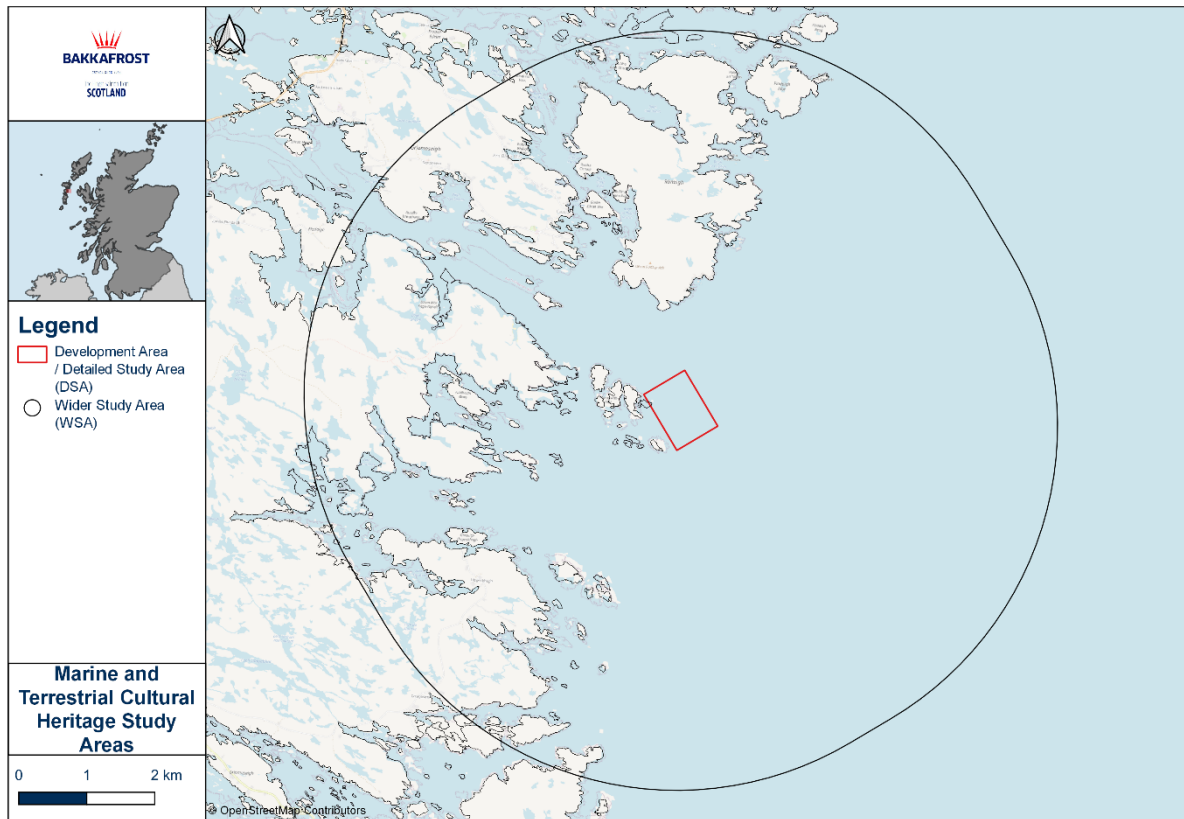


Figure 12.1: Marine and terrestrial cultural heritage study areas.

12.3.2 Marine Cultural Heritage Receptors

12.3.2.1 Designated Assets

No designated wrecks were identified within the DSA or the WSA.

12.3.2.2 Non-Designated Assets

There are no records of confirmed or possible wrecks within the DSA. Within the WSA Canmore data indicate the presence of four wrecks. A summary of the identified maritime features is provided in **Table 12.2**.

Table 12.2: Summary of the Identified maritime features within the WSA.

Name	Classification	Type	Site Number	Distance (km) and Direction from the Proposed Development
Laurine: Ceallan, Grimsay, Little Minch	Maritime Craft	Sloop (19 th Century)	214005	2.95, Northwest
Venus	Maritime Craft	Craft (Possible)	325686	0.14, Northeast
Venus: Ronay, North Uist, Little Minch	Maritime Craft	Craft (19 th Century)	270158	2.13, Northwest
Venus: Ura Island, Benbecula, Little Minch	Maritime Craft	Schooner (19 th Century)	271821	3.92, South-southwest

12.3.3 Terrestrial Cultural Heritage Receptors

12.3.3.1 Designated Cultural Heritage Receptors

No designated terrestrial cultural heritage receptors were identified within the DSA. Within the WSA, a single Scheduled Ancient Monument (SAM) has been identified. **Table 12.3** provides additional information on the identified designated assets. This SAM is also a Property in Care (PIC) (PIC072).

Table 12.3: Summary of the SAMs identified within the WSA.

Name	Classification	Reference	Description	Distance (km) and Direction from the Proposed Development
Dun Ban, Dun, Loch Hornary, Grimsay	Scheduled Monument	SM5123	<p>The overgrown remains of Dun Ban stand on a small islet, linked to the southern shore of Loch Hornary by a causeway.</p> <p>The dun is a small, sub-circular drystone fortification 15 m in average external diameter.</p>	4.80, Northwest

12.3.3.2 Non-Designated Assets

Canmore data indicate that there are no records of non-designated assets within the DSA. However, within the WSA, Canmore data indicate the presence of 112 non-designated terrestrial cultural heritage assets. Of these 112 assets, six are within 2 km of the Proposed Development. The closest asset to the

Proposed Development is the North Uist, Ronay, Poll An T-Suicair (Shieling Hut (Post Medieval) (Possible)) (Reference: 123301), which is located 1.68 km to the north of the Development Area. **Table 12.4** provides a detailed summary of the non – designated assets identified within the WSA

.

Table 12.4: Summary of non-designated terrestrial cultural heritage assets identified within the WSA.

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
Bagh Gheallt, Raerinis, Benbecula	Monument (By Form)	Wall (Period Unassigned)	337404	3.84, West
Bagh Gheallt, Raerinis, Benbecula	Monument (By Form)	Wall (Period Unassigned)	337405	3.63, West
Bagh Mhic Rath, Grimsay	Maritime, Transport	Cleared Slipway (Modern), Naust (Period Unassigned)	336829	4.69, Northwest
Benbecula, Bagh Gheallt	Agriculture And Subsistence	Farmstead (Period Unassigned)(Possible)	123291	3.7, West
Benbecula, Bagh Gheallt	Unassigned, Monument (By Form)	Building (Period Unassigned)(Possible)	123293	3.72, West
Benbecula, Bearran	Unassigned, Monument (By Form), Unassigned (Object)	Building (Period Unknown), Unidentified Pottery (Period Unknown)	10194	3.26, West
Benbecula, Bearran	Maritime	Landing Point (Period Unassigned)	349722	3.27, West
Benbecula, Bearran	Agriculture And Subsistence, Domestic	Shieling Hut(S) (Post Medieval)	349723	3.17, West
Benbecula, Bearran	Monument (By Form)	Wall (Period Unassigned)	349724	3.11, West
Benbecula, Buaille-Rarnish	Monument (By Form), Agriculture And Subsistence, Domestic	Head Dyke (Post Medieval), Township (Period Unassigned)	126084	3.58, Southwest
Benbecula, Hacklett	Monument (By Form), Religious Ritual And Funerary	Burial Cairn (Prehistoric), Cup Marked Stone (Prehistoric), Standing Stone (Prehistoric)	10203	4.91, West
Benbecula, Hacklett	Maritime, Transport	Quay (Period Unknown)	349727	4.64, West
Benbecula, Hacklett	Maritime	Landing Point (Period Unknown)	349728	4.55, West
Benbecula, Neavag Bay	Unassigned, Monument (By Form)	Building (Period Unassigned)	10195	3.56, West
Benbecula, Neavag Bay	Monument (By Form)	Cairn (Period Unassigned)	10199	4.02, West
Benbecula, Oban Haka	Agriculture And Subsistence, Domestic	Township (Period Unassigned)(Possible)	123287	4.86, West
Benbecula, Orasaigh	Monument (By Form), Domestic	Enclosure (Period Unassigned)(Possible), Hut (Period Unassigned)(Possible)	349720	4.63, West
Benbecula, Orasaigh	Transport	Naust (Period Unassigned)	349721	4.47, West
Benbecula, Rarinish	Unassigned, Monument (By Form)	Building(S) (Period Unassigned)	278725	4.57, Northwest

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
Benbecula, Rossinish	Dress And Personal Accessories, Agriculture And Subsistence, Religious Ritual And Funerary, Unassigned (Object), Domestic	Cist (Bronze Age), Cremation(S) (Bronze Age), Inhumation(S) (Bronze Age), Midden(S) (Prehistoric), Pendant (Stone)(Bronze Age), Unidentified Pottery (Pottery)(Bronze Age) - (Iron Age)	10196	2.23, Northwest
Benbecula, Rossinish	Domestic	Settlement (Period Unassigned)	10197	2.17, Northwest
Benbecula, Scarilode, Footbridge	Monument (By Form), Transport	Footbridge (Period Unassigned)	269249	4.69, West
Benbecula, Scarilode, General	Unassigned	General View	171958	4.32, West
Benbecula, Sidhean Rossinish	Domestic	Settlement (Period Unassigned)	283493	2.15, West
Benbecula, Sithean Rossinish	Unassigned, Monument (By Form), Agriculture And Subsistence	Building (Period Unassigned), Sheepfold (Period Unassigned)	123300	2.11, West
Benbecula, Sound Of Flodday	Agriculture And Subsistence, Monument (By Form)	Farmstead (Period Unassigned), Field Boundary(S) (Period Unassigned)	75835	4.91, West
Benbecula, Sound Of Flodday	Dress And Personal Accessories	Penannular Brooch (Middle Iron Age)	283002	4.51, West
Benbecula, Sound Of Orasay	Agriculture And Subsistence, Domestic	Shieling Hut (Post Medieval)	10198	3.5, Southwest
Benbecula, Strom Yeoratan	Unassigned, Monument (By Form)	Building (Period Unassigned)	124483	4.48, Southwest
Benbecula, Uskavagh	Monument (By Form), Agriculture And Subsistence, Domestic	Head Dyke (Post Medieval), Township (Period Unassigned)	126083	3.66, Southwest
Benbecula, Uskavagh, Dun Saibh	Monument (By Form)	Natural Feature (Period Unknown)	10159	3.91, Southwest
Ceannaraigh, Grimsay	Agriculture And Subsistence	Farmstead (Modern)	336815	4.15, Northwest
Eilean Mheall Nam Muc, Grimsay	Transport	Naust (Modern)	336821	3.12, Northwest
Eilean Mheall Nam Muc, Grimsay	Agriculture And Subsistence	Field System (Period Unassigned)	336822	3.32, Northwest
Eilean Mheall Nam Muc, Grimsay	Transport	Naust (Modern)	336823	2.87, Northwest
Eilean Mheall Nam Muc, Grimsay	Maritime, Transport	Jetty (Modern)	336824	2.76, Northwest
Eilean Mheall Nam Muc, Grimsay	Maritime, Transport	Jetty (Modern)	336825	2.45, Northwest
Eileanan An Teampuill, Grimsay	Agriculture And Subsistence	Field System (Modern)	336826	2.24, Northwest

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
Grimsay, Cnoc Na H-Uamha	Monument (By Form), Domestic	Cave (Period Unassigned)(Possible), Natural Feature (Period Unknown)	10172	4.18, Northwest
Grimsay, General	Unassigned	General View	270071	4.86, Northwest
Grimsay, Kallin	Agriculture And Subsistence, Domestic	Township (Period Unassigned)(Possible)	123298	2.56, Northwest
Grimsay, Kallin	Agriculture And Subsistence, Maritime, Transport, Domestic	Jetty (Period Unassigned), Township (Period Unassigned)	277930	3.36, Northwest
Grimsay, Kallin	Industrial	Factory (Period Unassigned)	277932	2.58, Northwest
Grimsay, Kallin Harbour	Maritime, Transport	Harbour (Period Unassigned), Pier (Period Unassigned), Slipway (Period Unassigned)	277931	2.88, Northwest
Grimsay, Kallin Primary School	Education	School (Period Unassigned)	277933	2.88, Northwest
Grimsay, Loch A' Mhuilinn	Transport, Domestic	Causeway (Prehistoric), Dun (Prehistoric)	10183	3.39, Northwest
Grimsay, Loch Hornary, Dun Ban	Transport, Domestic	Causeway (Prehistoric), Dun (Prehistoric)	10182	4.79, Northwest
Grimsay, Scotvein, Boat Builder	Industrial, Maritime, Transport	Boat Yard (20Th Century)	152662	4.1, Northwest
Grimsay, St Michael'S Chapel	Religious Ritual And Funerary	Burial Ground (Medieval), Chapel (Medieval)	10193	2.36, Northwest
Loch Nan Cuiseag, Grimsay	Maritime, Transport	Jetty (Period Unassigned), Slipway (Modern)	336796	4.89, Northwest
Meall Na Hoa, Grimsay	Agriculture And Subsistence, Monument (By Form)	Field Boundary (Period Unassigned), Wall (Modern)	336833	4.86, Northwest
Meall Na Hoa, Grimsay	Unassigned	Structure (Modern)	336830	4.95, North
North Uist, Flodaigh Mor	Domestic	Hut(S) (Period Unassigned)(Possible)	349762	4.62, North
North Uist, Flodaigh Mor	Monument (By Form)	Platform (Period Unassigned)(Possible)	349763	4.5, North
North Uist, Flodaigh Mor	Maritime, Transport	Jetty (Period Unassigned)	349774	4.52, North
North Uist, Flodaigh Mor	Monument (By Form)	Bank (Earthwork) (Period Unassigned)	349771	4.58, North
North Uist, North Uist, Ronay, Loch Na Sruthan Beag	Maritime, Transport	Jetty (Period Unassigned)	349749	2.19, North
North Uist, North Uist, Ronaybeg	Maritime, Transport	Jetty (Period Unassigned)	349764	3.97, North
North Uist, Ronay, Acairseid Fhalaich	Unassigned, Monument (By Form)	Building(S) (Period Unassigned)	123264	3.92, North

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
North Uist, Ronay, Bagh Na Caiplich	Agriculture And Subsistence, Monument (By Form), Domestic	Enclosure (Period Unassigned), Shieling Hut(S) (Post Medieval)	75698	3.48, North
North Uist, Ronay, Bagh Na Caiplich	Maritime, Transport	Jetty (Period Unassigned)	349757	3.51, North
North Uist, Ronay, Loch Na Sruthan Beag	Monument (By Form)	Dyke (Period Unassigned)	349753	2.07, North
North Uist, Ronay, Loch Na Sruthan Beag	Monument (By Form)	Cairn (Period Unassigned)	349754	2.21, North
North Uist, Ronay, Loch Na Sruthan Beag	Maritime, Transport	Jetty (Period Unassigned)	349755	2.32, North
North Uist, Ronay, Loch Na Sruthan Beag	Maritime, Transport	Jetty (Period Unassigned)	349756	2.21, North
North Uist, Ronay, Poll An T-Suicair	Agriculture And Subsistence, Domestic	Shieling Hut (Post Medieval)(Possible)	123301	1.68, North
North Uist, Ronay, Poll An T-Suicair	Maritime, Transport	Jetty (Period Unassigned)	349729	1.69, North
North Uist, Ronay, Poll An T-Suicair	Maritime, Transport	Jetty (Period Unassigned)	349730	1.77, North
North Uist, Ronay, Poll An T-Suicair	Unassigned, Monument (By Form)	Building (Period Unassigned)(Possible)	349731	1.79, North
North Uist, Ronay, Poll An T-Suicair	Industrial	Kelp Kiln (Post Medieval)(Possible)	349734	1.93, North
North Uist, Ronay, Rubha Na Buth	Unassigned, Monument (By Form), Transport	Building(S) (Period Unassigned), Naust (Period Unassigned), Stepping Stones (Period Unassigned)	289937	2.12, North
North Uist, Ronay, Rubha Na Buth	Maritime, Transport	Jetty (Period Unassigned)	349739	2.01, North
North Uist, Ronay, Rubha Na Buth	Monument (By Form)	Boundary Dyke (Period Unassigned)	349740	2.18, North
North Uist, Ronay, Rubha Na Buth	Monument (By Form)	Cairn (Period Unassigned)	349741	2.22, North
North Uist, Ronay, Rubha Na Buth	Maritime, Transport	Jetty (Period Unassigned)	349742	2.23, North
North Uist, Ronay, Rubha Na Buth	Maritime, Transport	Jetty (Period Unassigned)	349743	2.41, North
North Uist, Ronaybeg	Agriculture And Subsistence, Domestic	Township (Post Medieval)	10174	4.07, North
North Uist, Ronaybeg, Bad Fo-Leac	Maritime	Breakwater (Period Unassigned)(Possible)	349765	4.18, North
North Uist, Ronaybeg, Rubha Nam Brisgein	Agriculture And Subsistence, Domestic	Township (Post Medieval)	10173	4.41, North
North Uist, Ronaybeg, Rubha Nam Brisgein	Unassigned, Monument (By Form)	Building(S) (Period Unassigned)(Possible)	349767	4.47, North
North Uist, Ronaybeg, Rubha Nam Brisgein	Maritime, Transport	Jetty (Period Unassigned)	349768	4.46, North
North Uist, Ronaybeg, Rubha Nam Brisgein	Monument (By Form)	Enclosure (Period Unassigned)	349769	4.45, North

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
North Uist, Ronaybeg, Rubha Nam Brisgein	Recreational, Agriculture And Subsistence	Fish Trap (Period Unassigned)	349770	4.5, North
North Uist, Seanna Chaisteal	Monument (By Form)	Natural Feature (Period Unknown)	75700	4.68, North
Roisinis, Benbecula	Maritime	Cleared Slipway (Period Unassigned)	337400	3.32, West
Roisinis, Benbecula	Agriculture And Subsistence	Field System (Period Unassigned)	337401	2.19, West
Roisinis, Benbecula	Industrial, Monument (By Form), Water Supply And Drainage	Dam (Period Unassigned), Wall (Period Unassigned)	337403	3.06, West
Roisinis, Benbecula	Monument (By Form)	Findspot (Iron Age)	334749	2.27, Northwest
Ronay	Religious Ritual And Funerary	Chapel (Medieval)(Possible)	10166	2.13, North
Ronay	Unassigned, Monument (By Form)	Building (Period Unassigned)	123296	2.9, North
Ronay, Buaile Druidhneach	Unassigned, Monument (By Form)	Building (Period Unassigned)	123297	2.75, North
Ronay, Buaile-Mhor	Agriculture And Subsistence, Domestic	Township (Post Medieval)	10168	3.74, North
Ronay, Eilean Na Cloiche	Unassigned, Monument (By Form)	Building (Period Unassigned)	289938	2.06, North
Ronay, Loch Na Sruthan Beag	Domestic	Dun (Prehistoric)(Possible)	10184	2.17, North
Ronay, Loch Na Sruthan Beag	Agriculture And Subsistence	Farmstead (Period Unassigned)	123299	2.25, North
Ronay, Loch North Uist, Na Sruthan Beag	Maritime, Transport	Jetty (Period Unassigned)	349750	2.12, North
Ronay, Poll An T-Suicair	Agriculture And Subsistence, Domestic	Shieling Hut (Post Medieval)(Possible)	123306	1.83, North
Ronay, Rubha Chnaip	Monument (By Form)	Dyke (Period Unassigned)	289936	3.33, North
Ronaybeg, Bad Fo-Leac	Agriculture And Subsistence, Domestic	Township (Post Medieval)(Possible)	10175	4.25, North
Ruagh Bhruthach, Grimsay	Agriculture And Subsistence	Farmstead (Modern)	336812	4.11, Northwest
Rubha Meabhoin, Grimsay	Maritime, Transport	Jetty (Period Unassigned), Slipway (Modern)	336816	4.42, Northwest
Rubha Meabhoin, Grimsay	Maritime, Transport	Cleared Slipway (Modern), Naust (Period Unassigned)	336827	4.58, Northwest
Rubha Meabhoin, Grimsay	Unassigned	Structure (Period Unassigned)	336828	4.38, Northwest
Rudha Creag Corra-Ghritheach, Roisinis, Benbecula	Maritime, Transport	Slipway (Period Unassigned)	337402	3.18, Northwest

Name	Classification	Site Type	Reference	Distance and Direction from the Proposed Development (km)
Scotbheinn, Gramsay	Unassigned, Monument (By Form), Agriculture And Subsistence	Building (Period Unassigned), Field System (Period Unassigned), Structure (Modern)	336814	4.44, Northwest
Scotbheinn, Grimsay	Unassigned, Maritime, Transport	Cleared Slipway (Period Unassigned), Jetty (Period Unassigned), Structure (Modern)	336813	4.26, Northwest
South Uist	Monument (By Form), Civil, Agriculture And Subsistence	Croft(S) (Post Medieval), Shelter(S) (Post Medieval)	296394	3.67, West
South Uist	Monument (By Form), Unassigned (Object)	Findspot (21St Century), Pin (Medieval)	370438	2.24, West
Sron Tuath, Grimsay	Agriculture And Subsistence	Field System (Modern)	336817	3.8, Northwest
Sron Tuath, Grimsay	Maritime, Transport	Harbour (Modern)	336818	3.71, Northwest
Sron Tuath, Grimsay	Agriculture And Subsistence	Field System (Period Unassigned)	336819	3.68, Northwest
Sron Tuath, Grimsay	Maritime, Transport	Harbour (Modern), Naust (Period Unassigned)	336820	3.65, Northwest

12.4 Proposed Approach to the Environmental Impact Assessment

12.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to determine the marine and terrestrial cultural heritage baseline condition within this Report. It is determined that no additional analysis is required to identify potential marine and terrestrial cultural heritage receptors within the DSA and WSA.

Data identified and utilised for analysis within this Report is presented in **Table 12.5**.

Table 12.5: Key publicly available data sources for the marine and terrestrial cultural heritage baseline condition.

Source	Summary	Spatial Coverage
Canmore: Listed Building ⁷⁰	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: Scheduled Ancient Monuments ⁷¹	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: Gardens and Designed Landscapes ⁷²	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: Battlefields ⁷³	Spatial data on battlefields.	National coverage, full coverage of the DSA and WSA.
Canmore: Historic Marine Protected Areas ⁷⁴	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: Conservation Areas ⁷⁵	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: World Heritage Sites ⁷⁶	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: Properties in Care ⁷⁷	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.
Canmore: National Record of the Historic Environment (Points) ⁷⁸	Spatial data showing geographic distribution.	National coverage, full coverage of the DSA and WSA.

12.4.2 Pre-Application Consultation and Engagement

As part of the Screening and Scoping Request (22/00282) submitted to CnES by BFS in June 2022, for the initial Morrison's Rock fish farm proposal, Historic Environment Scotland (HES) provided scoping advice that advised that cultural heritage assets within their remit could be scoped out of further assessment. The revised proposal is located approximately 420 m to the southeast of this previous proposal.

⁷⁰ Historic Environment Scotland (HES): Listed Buildings. [Online] Available at: <https://portal.historicenvironment.scot/downloads/listedbuildings>

⁷¹ HES: Canmore – Scheduled Ancient Monuments. [Online] Available at: <https://portal.historicenvironment.scot/downloads/scheduledmonuments>

⁷² HES: Gardens and Designed Landscapes. [Online] Available at: <https://portal.historicenvironment.scot/downloads/gardens>

⁷³ HES: Battlefields. [Online] Available at: <https://portal.historicenvironment.scot/downloads/battlefields>

⁷⁴ HES: Historic Marine Protected Areas. [Online] Available at: <https://portal.historicenvironment.scot/downloads/hmpas>

⁷⁵ HES: Conservation Areas. [Online] Available at: <https://portal.historicenvironment.scot/downloads/conservationareas>

⁷⁶ HES: World Heritage Sites. [Online] Available at: <https://portal.historicenvironment.scot/downloads/worldheritagesites>

⁷⁷ HES: Properties in Care. [Online] Available at: <https://portal.historicenvironment.scot/downloads/propertiesincare>

⁷⁸ HES: Canmore – National Records of the Historic Environment. [Online] Available at: <https://portal.historicenvironment.scot/downloads/canmore>

As part of this new proposal BFS will consult and engage with key cultural heritage stakeholders, during the pre-application phase of the development programme, to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

12.5 Identified Potential Impacts

A range of potential impacts on marine and terrestrial cultural heritage receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 12.6**, along with the scoping determination and rationale.

Table 12.6: Scoping determination and rationale for potential impacts on marine and terrestrial cultural heritage receptors.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Marine Cultural Heritage Receptors; and Terrestrial Cultural Heritage Receptors.	Construction	Direct disturbance and / or damage to cultural heritage assets	The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature. During installation all project vessel activity will be associated with the Development Area, which has a negligible spatial extent. Project vessels will be moving at slow speeds or will be stationary when onsite. As such, impacts associated with the construction phase of the Proposed Development are determined to be unlikely to result in anything other than insignificant effects.	Scoped Out
		Increased sedimentation on cultural heritage assets		
		Indirect impacts on the setting of cultural heritage assets		
	Operation	Direct disturbance and / or damage to cultural heritage assets	Impact pathways associated with the operational phase of the Proposed Development are anticipated to persist over the long-term, as the Proposed Development has no defined decommissioning date. Due to the distance between the Proposed Development and the marine cultural heritage assets identified within WSA, it is determined that there would not be any connectivity with the identified impact pathways. As such, it is determined that the identified impacts pathways are unlikely to result in anything other than insignificant effects on the identified marine cultural heritage assets within the WSA. Whilst there are a number of terrestrial cultural heritage assets, including one SAM, within the WSA, the distance between the assets and the Proposed Development, coupled with the embedded mitigation (Sub-Section 12.2), particularly the utilisation of low profile infrastructure, will sufficiently mitigate potential impacts to negligible levels. Visibility analysis also indicates that the Proposed Development would not be visible from the Dun Ban SAM. As such, it is determined that the identified impacts pathways are unlikely to result in anything other than insignificant effects on the identified terrestrial cultural heritage assets within the WSA.	Scoped Out
		Increased sedimentation on cultural heritage assets		
		Indirect impacts on the setting of cultural heritage assets		
	Decommissioning	Direct disturbance and / or damage to cultural heritage assets	The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development can be scoped out of further assessment.	Scoped Out
		Increased sedimentation on cultural heritage assets		
		Indirect impacts on the setting of cultural heritage assets		

12.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 12.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 12.2** is unlikely to have significant effects on the marine and terrestrial cultural heritage receptors identified within the study areas. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 12.2**. As such, embedded mitigation measures for marine and terrestrial cultural heritage will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 12.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 12.5** further assessment will be undertaken and presented within the EIAR.

13 Traffic and Transport

13.1 Introduction

This section of the Report identifies the traffic and transport receptors of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified traffic and transport receptors and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

13.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on traffic and transport receptors. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 13.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 13.5**.

Table 13.1: Summary of the embedded mitigation measures relevant to traffic and transport.

Embedded Mitigation Measure	Description	Relevant Impact Pathways
Marine Nature of the Proposed Development	<p>Due to the marine nature of the Proposed Development construction, operational, and decommissioning activities will be primarily facilitated via marine vessels.</p> <p>This will significantly reduce the reliance on the road network to service the Proposed Development, which in turn will limit the amount of associated road traffic.</p>	<p>Road user delays and disruption;</p> <p>Road safety and vulnerable road users (pedestrians and cyclists); and</p> <p>Hazardous and / or dangerous loads.</p>
Production Mortality Disposal	<p>Under background mortality conditions, mortalities will be removed from the pens on a daily basis via the Lift-Up system. These mortalities will then be brought ashore and stored in purpose built mortality storage equipment. When the storage equipment is full, the mortalities will be collected by SEPA registered waste carriers and transported to SEPA licensed waste disposal sites. This process will make use of heavy goods vehicles (HGVs) and the local transport network. However, under event mortality conditions, mortality removal will be facilitated via marine vessels, where mortalities will be removed directly from the pens into purpose built processing and storage systems on farming support vessels and then transported by sea to SEPA licensed waste disposal sites. This will help avoid and / or reduce the amount of road traffic associated with mortality removal during high demand times.</p>	<p>Road user delays and disruption;</p> <p>Road safety and vulnerable road users (pedestrians and cyclists); and</p> <p>Hazardous and / or dangerous loads.</p>
Waste Carrier Requirements	<p>Production mortality will only be collected by SEPA registered waste carriers. Best practice measures will be implemented to ensure the safe transportation of potentially hazardous animal waste.</p>	<p>Hazardous and / or dangerous loads.</p>

13.3 Baseline Condition

13.3.1 Study Area

The study area as shown in **Figure 13.1** has been defined as the key transport routes to and from the existing BFS Kallin shorebase. The Proposed Development will be serviced from the BFS Kallin shorebase.

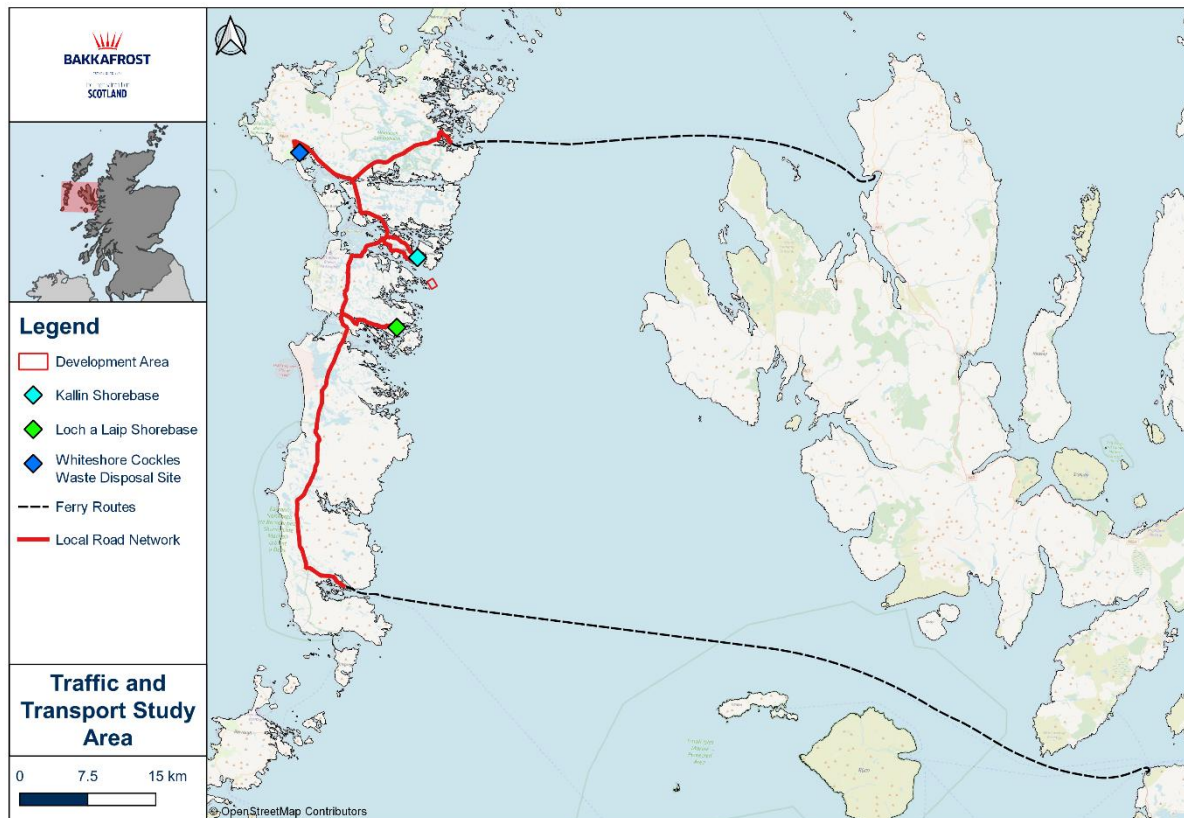


Figure 13.1: Terrestrial traffic and transport study area.

13.3.2 Traffic and Transport Routes

Due to the location of the Proposed Development off the northeast coast of the Isle of Benbecula, it is determined that terrestrial vehicles servicing the Proposed Development, via the BFS Kallin and BFS Loch a' Laip (production mortality only) shorebases, will make use of the Caledonian MacBrayne (CalMac) ferry services to the Isles of North and South Uist in addition to the local road network.

The Proposed Development will be serviced by a variety of vehicles, including larger vehicles, such as production mortality removal trucks and fuel tankers, and smaller vehicles (pickup trucks and vans), typically used by BFS support departments.

To provide some context, **Table 13.2** provides data on the annual average daily traffic flow conditions along the identified A-road and B-road network.

13.3.2.1 Current Scenario

At present, mortality removal lorries collect the mortality skips from the Loch a' Laip shorebase and transport them to the Whiteshore Cockles waste disposal site. This route covers 36.64 km. Fuel tankers service the Kallin shorebase, these tankers use the existing commercial ferry services, and then from there either travel from Lochmaddy to Kallin or from Lochboisdale to Kallin.

BFS support staff are already making use of the transport network (ferries and local road network) in order to service the existing BFS fish farms that are operated out of the Kallin shorebase. At present, these trips have a frequency of once every two weeks. The Proposed Development is not predicted to increase the frequency of these BFS support staff visits.

13.3.2.2 Traffic Flow Conditions

To provide some context to the local road networks identified in **Sub-Section 13.3.2.1**, **Table 13.2** provides data on the annual average daily traffic flow conditions at specific monitoring points along the identified local road network.

Table 13.2: Traffic flow conditions within the study area.

Count Location	Year	All Motor Vehicles	Light Goods Vehicles (LGV)	Heavy Goods Vehicles (HGV)	LGV %	HGV %
A865 (Site number: 10953)	2023	1,196	337	20	28.18	1.67
A865 (Site number: 30953)	2023	1,264	396	477	31.33	37.74
A865 (Site number: 1140)	2023	718	101	13	14.07	1.81
C-Road (Site number: 811538)	2023	502	120	22	23.90	4.38
A867 (Site number: 30954)	2023	872	173	29	19.84	3.33
A867 (Site number: 1141)	2023	985	323	194	32.79	19.70
A865 (Site number: 20942)	2023	787	197	30	25.03	3.81
A865 (Site number: 40953)	2023	1,692	399	65	23.58	3.84
A865 (Site number: 20943)	2023	844	212	16	25.12	1.90
A865 (Site number: 50913)	2023	1,084	331	13	30.54	1.20

13.4 Proposed Approach to the Environmental Impact Assessment

13.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to determine the traffic and transport baseline condition within this Report. It is determined that no additional analysis is required to identify potential traffic and transport receptors within the DSA and WSA.

Data identified and utilised for analysis within this Report is presented in **Table 13.3**.

Table 13.3: Key publicly available data sources for the traffic and transport baseline condition.

Source	Summary	Spatial Coverage
Ordnance Survey (OS): Open Roads ⁷⁹	OS Open Roads is a high-level view of the road network, from motorways to country lanes in Great Britain.	Full coverage of the study area.
SGMD: Scottish Ferry Routes ⁴⁹	Spatial data on Scottish passenger and vehicle ferry routes.	Available at national level, full coverage of DSA and WSA.
Department for Transport (DfT): Road Traffic Statistics ⁸⁰	Summary and street-level traffic data for road-links on the motorway, 'A' road and minor road network in Great Britain.	Full coverage of the study area.

13.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key traffic and transport stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

13.5 Identified Potential Impacts

A range of potential impacts on traffic and transport receptors have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 13.4**, along with the scoping determination and rationale.

⁷⁹ OS: Open Roads. [Online] Available at: <https://www.ordnancesurvey.co.uk/products/os-open-roads>

⁸⁰ DfT: Road Traffic Statistics. [Online] Available at: <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>

Table 13.4: Scoping determination and rationale for potential impacts on traffic and transport receptors.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
CalMac Ferry Services; and Local Road Network.	Construction	Road user delays and disruption	The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.	Scoped Out
		Road safety and vulnerable road users (pedestrians and cyclists)	Due to the marine nature of the Proposed Development, all equipment, including the mooring system, pens, and feed barge, will be delivered to the Development Area via marine vessels. As such, no large-scale equipment or heavy plant will be transported to the Proposed Development via the identified road network.	
		Hazardous and / or dangerous loads	There is the potential that small-scale equipment will be delivered to the Proposed Development via the road network, however, this will be minimal, and therefore well within the capacity of the existing road network. Due to the small-scale nature of terrestrial transport associated with the installation phase, coupled with the short-term and temporary nature of the construction / installation phase, it is determined that impacts associated with this phase of the Proposed Development are unlikely to result in anything other than insignificant effects.	
	Operation	Road user delays and disruption	Impact pathways associated with the operational phase of the Proposed Development are anticipated to persist over the long-term, as the Proposed Development has no defined decommissioning date.	Scoped Out
		Road safety and vulnerable road users (pedestrians and cyclists)	However, due to the marine nature of the Proposed Development, the majority of operational activities will be facilitated by marine vessels. Operational procedures at the Proposed Development, such as feed delivery, harvesting and fish health interventions will all be undertaken via marine vessels.	
		Hazardous and / or dangerous loads	As detailed in Sub-Section 13.3 , BFS support staff will visit the BFS Kallin shorebase via the local ferry services and the local road network. However, BFS support staff are already making use of this transport network in order to service the existing BFS fish farms that are operated out of the BFS Kallin shorebase. At present, these trips have a frequency of once every two weeks. The Proposed Development is not predicted to increase the frequency of these BFS support staff visits. Production mortality from the existing BFS fish farms operated out of the BFS Kallin shorebase is brought ashore to the alternative Loch a 'Laip shorebase, and stored in specialist storage infrastructure, pending collection by SEPA registered waste carriers and transportation to SEPA licensed waste disposal sites. Production mortality from the Proposed Development will be stored and dealt with in the same manner, therefore the Proposed Development would add to the cumulative storage of production mortality at the shorebase, and in turn this would influence the frequency of collections. At present (without the Proposed Development) under background mortality conditions production mortality frequency is typically once every five days, it is predicted that the production mortality from the Proposed Development would increase this frequency to once every three days. This predicted scenario is considered to be well within the assimilative capacity of the local transport network and the capacity of the relevant SEPA registered waste carriers. However, BFS plans to install and operate a production mortality ensiling system at the Loch a 'Laip shorebase. At the time of writing this Report, BFS has received planning permission and a SEPA permit for this project (January 2025). Once the ensiling system is installed and operational, background production mortality will be stored within this system, which has double the storage capacity of a single mortality skip. As such, when operational, this system is predicted to half the frequency of production mortality collections (as presented above). Furthermore, as detailed in Sub-Section 13.2 , under event mortality conditions, production mortality removal will be facilitated via marine vessels, where mortalities will be removed directly from the pens into purpose built processing and storage systems on farming support vessels. Fuel tankers also currently deliver fuel to the BFS Kallin shorebase approximately once a week. The operation of the Proposed Development would not impact the frequency of fuel tanker deliveries, as the fuel tankers have additional storage capacity that is currently not utilised. Therefore, the frequency of deliveries would stay the same, but the volume of fuel delivered would increase.	

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
			<p>The transportation of hazardous / dangerous loads and production mortality (animal waste) is mitigated through the collection and transportation by SEPA registered waste carriers. Production mortality is also delivered to SEPA licensed waste disposal sites.</p> <p>As such, impacts associated with the operational phase of the Proposed Development are determined to be unlikely to result in anything other than insignificant effects.</p>	
	Decommissioning	Road user delays and disruption	<p>The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development can be scoped out of further assessment.</p>	Scoped Out
		Road safety and vulnerable road users (pedestrians and cyclists)		
		Hazardous and / or dangerous loads		

13.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 13.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 13.2** is unlikely to have significant effects on the traffic and transport receptors identified within the study areas. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 13.2**. As such, embedded mitigation measures for traffic and transport will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 13.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 13.5** further assessment will be undertaken and presented within the EIAR.

14 Noise

14.1 Introduction

This section of the Report identifies the noise sensitive receptors (NSRs) of relevance to the Proposed Development. This section describes the potential impacts and subsequent effects from the construction, operation, and decommissioning of the Proposed Development on the identified NSRs and sets out the proposed scope of the EIA. The proposed methodology for the EIA is also presented.

14.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on NSRs. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 14.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 14.5**.

Table 14.1: Summary of the embedded mitigation measures relevant to potential noise impacts.

Embedded Mitigation Measure	Description	Relevance
Development Location	One of the selection criteria for the development location was lack of nearby NSRs.	Noise Impact
Generator Positioning	<p>All generators deployed to produce electrical power to the feed barge will be located within the hull of the feed barge, as such they will be located below water-level.</p> <p>The positioning of the generators below the water-level ensures that above water sound propagation is reduced. The structure of the feed barge will reflect the sound waves within the hull and reduce dispersal potential.</p>	Noise Impact
Sound Insulation	<p>The feed barge will be purpose built to a high level of sound proofing, with the specific level of sound proofing specified during the design phase of feed barge construction. This includes the insulation of external exhaust pipes on the feed barge.</p> <p>Each individual generator will be housed with a sound attenuating enclosure, to ensure a high level of sound absorption. These insulating measures, undertaken as best practice will reduce the propagation of sound from the feed barge.</p>	Noise Impact
Feed Blower Positioning	The feed blowers on the feed barge will be positioned such that they will face offshore and be screened, by the structure of the feed barge, from the identified NSRs.	Noise Impact
Standard Working Hours	<p>In general BFS normal working hours are from 0700 hrs to 2000 hrs, over a seven day working week. However, due to the nature of rearing livestock, additional operations will likely be required outwith the standard working hours to ensure high levels of fish health and welfare. Any operations outwith normal working hours shall be minimised, wherever possible.</p> <p>In addition, during certain periods of the year, equipment integral to the production cycle and ensuring high standards of fish health and welfare, will be required to run overnight. This primarily includes underwater lighting and aeration systems.</p> <p>Aeration systems will typically be used from April to October. However, this is subject to review and modification by the BFS Production and Biology Departments.</p>	Noise Impact
Automatic Timer System	The feed barge will be fitted with a timer system, which will automatically switch off all the generators onboard at a pre-set time. This ensures that once daily operations are complete and power is no longer needed on the feed barge, generators will turn off and therefore generation of unnecessary noise is avoided. This system will be in place when no overnight equipment is required.	Noise Impact
Reduced Power Generators	<p>During certain periods of the year, equipment integral to the production cycle, will be required to run overnight. This primarily includes underwater lighting.</p> <p>This system will be powered by generators with reduced power output in comparison to the primary generators used during normal working hours. Overnight generators are proposed to have a significantly reduced power output in comparison to the generators run during the daytime, 20 Kilovolt-amps (kVA) in comparison to 250 kVA. As detailed above, these smaller generators will also be housed within the body of the purpose built feed barge, below the water level, and within a sound attenuating enclosure.</p>	Noise Impact
Built-in Electric Compressors	Built-in electric compressors will be included within the design of the feed barge. These compressors will be used to power the aeration systems within the pens, and also the Lift-Up mortality removal systems. During certain times of the production cycle, the aeration system may be required to be active over a continuous 24 hour period. However, as these systems will be run via built-in electric compressors, there will be negligible levels of noise generation and propagation.	Noise Impact

14.3 Baseline Condition

14.3.1 Study Area

Two study areas have been defined, a Detailed Study Area (DSA) defined as a 2 km buffer around the Development Area, and a Wider Study Area (WSA) defined as a 5 km buffer around the Development Area. The DSA aligns to the information requirements of Development Policy 4 (Noise and Lighting Impacts) of the Outer Hebrides (OH) LDP⁶⁶.

14.3.2 Noise Sensitive Receptors (NSRs)

The Proposed Development will be located off the northeast coast of the Isle of Benbecula, as visually depicted in **Appendix A**. The northeast coast of the Isle of Benbecula, is remote, with no human habitation. As such, no NSRs were identified within the DSA.

Within the WSA, a limited number of NSRs were identified with potential connectivity with the Proposed Development. These NSRs include residential properties and walkers. **Table 14.2** provides a summary of the NSRs identified within the WSA, along with their distance and direction from the Proposed Development.

Table 14.2: Summary of the NSRs identified within the study area.

NSR	Comment	Distance (km)	Direction
Walkers on Core Path 22	The preliminary ZTV indicates that the Proposed Development would not be visible from the core path.	3.21	West
Walkers on Rossinish Beach	Rossinish beach is not identified as either a Recognised Surfing Beach or a Prime Beach, within the OH LDP, access is either from the sea, or on foot across rough ground.	2.17	West-northwest
Residential Properties	The nearest residential property to the Proposed Development.	2.50	Northwest

14.4 Proposed Approach to the Environmental Impact Assessment

The noise EIA will follow the assessment methodology outlined in **Sub-Section 2.2**.

In addition, the following principal guidance documents will be considered:

- Planning Circular 1/2007: Planning Controls for Marine Fish Farming⁸¹;
- Planning Advice Note: PAN 1/2011 Planning and Noise⁸²;
- The Control of Pollution Act 1974 (CoPA 1974)⁸³; and
- The Environmental Protection Act 1990⁸⁴.

⁸¹ SG: Planning Circular 1/2007: Planning Controls for Marine Fish Farms. [Online] Available at: <https://www.gov.scot/publications/scottish-planning-series-planning-circular-1-2007-planning-controls-marine/pages/0/>

⁸² SG: Planning Advice Note (PAN) 1/2011: Planning and Noise. [Online] Available at: <https://www.gov.scot/publications/planning-advice-note-1-2011-planning-noise/>

⁸³ UK Government: The Control of Pollution Act 1974. [Online] Available at: <https://www.legislation.gov.uk/ukpga/1974/40/section/109>

⁸⁴ UK Government: The Environmental Protection Act 1990. [Online] Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents>

14.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to determine the presence of NSRs within the study area. It is determined that no additional analysis is required to identify potential NSRs within the study area.

Data identified and utilised for analysis within this Report is presented in **Table 14.3**.

Table 14.3: Key publicly available data sources for the noise baseline condition.

Source	Summary	Spatial Coverage
OS Open Unique Property Reference Number (UPRN) Data ⁸⁵	An open dataset of UPRNs in Great Britain.	Coverage of the study area.
OS Code-Point Open Data ⁸⁶	An open dataset of all the current postcode units in Great Britain.	Coverage of the study area.
NatureScot (NS): Local Path Networks ⁸⁷	Spatial data showing the locations of core paths across Scotland, including the Outer Hebrides.	Coverage of the study area.
Airbnb ⁸⁸	Online holiday property rental company for short and long-term homestays and experiences.	Coverage of the study area.

14.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key noise stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

14.5 Identified Potential Impacts

A range of potential impacts on NSRs have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts relevant to the identified receptors are outlined in **Table 14.4**, along with the scoping determination and rationale.

⁸⁵ OS. OS Open UPRN. [Online] Available at: <https://osdatahub.os.uk/downloads/open/OpenUPRN>

⁸⁶ OS. Code-Point@ Open. [Online] Available at: <https://osdatahub.os.uk/downloads/open/CodePointOpen>

⁸⁷ NatureScot: Local Path Networks. [Online] Available at: <https://www.nature.scot/enjoying-outdoors/routes-explore/local-path-networks>

⁸⁸ AirBnB. [Online] Available at: <https://www.airbnb.co.uk/>

Table 14.4: Scoping determination and rationale for potential impacts on NSRs.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
Walkers on Core Path 22; Workers on Rossinish Beach; and Residential Properties	Construction	Increased generation and propagation of noise	<p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature. No NSRs were identified within the DSA, and only a limited number of NSRs identified within the WSA, at distances of greater than 2 km from the Proposed Development. As such, these NSRs are considered sufficiently distant to not be significantly impacted by noise generated and propagated from the Proposed Development.</p> <p>No heavy construction work will take place within the Development Area, or the shorebase, as all equipment will be built at the manufacturer's facilities and then transported to the Development Area for installation.</p> <p>Installation activities are determined to be low impact, as they will be primarily limited to the setting of the mooring system, and the positioning of the pens and feed barge.</p> <p>As such, this impact pathway is determined to be unlikely to result in anything other than insignificant effects.</p>	Scoped Out
	Operation		<p>Impact pathways associated with the operational phase of the Proposed Development are anticipated to persist over the long-term, as the Proposed Development has no defined decommissioning date.</p> <p>No NSRs were identified within the DSA, and only a limited number of NSRs identified within the WSA, at distances of greater than 2 km from the Proposed Development. As such, these NSRs are considered sufficiently distance to not be significantly impacted by noise generated and propagated from the Proposed Development.</p> <p>Noise sources associated with the feed barge are determined to be the generators, feed selectors, and feed blowers. Additionally, marine vessels will also generate a degree of noise, these vessels include the primary service vessels (the polarcirkel and the workboat) and the secondary service vessels (wellboats, fish health intervention vessels).</p> <p>The embedded mitigation, detailed in Sub-Section 14.2, is determined to be sufficient to avoid and reduce potential noise impacts. As such, this impact pathway is determined to be unlikely to result in anything other than insignificant effects.</p>	Scoped Out
	Decommissioning		<p>The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development can be scoped out of further assessment.</p>	Scoped Out

14.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 14.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 14.2** is unlikely to have significant effects on the limited number of NSRs identified within the WSA. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 14.2**. As such, embedded mitigation measures for noise will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 14.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 14.5** further assessment will be undertaken and presented within the EIAR.

15 Climate Change

15.1 Introduction

This section of the Report identifies the potential impacts and subsequent effects of the Proposed Development on climate change, and the potential impacts and effects of climate change on the Proposed Development. The proposed methodology for the EIA is also presented.

15.2 Embedded Mitigation

As part of the design process, a number of design and operational best practice mitigation measures will be built into the Proposed Development to avoid and / or reduce potential impacts on the climate and the vulnerability of the Proposed Development to climate related impacts. These measures will evolve over the development process as the EIA progresses and in response to consultation and engagement, where appropriate. A summary of the currently proposed embedded mitigation measures is presented in **Table 15.1**.

BFS is committed to implementing these embedded mitigation measures. It is therefore considered that these measures are inherently part of the design of the Proposed Development and hence have been considered in the judgments as to which impacts can be scoped in / out presented in **Sub-Section 15.5**.

Table 15.1: Summary of the embedded mitigation measures relevant to climate change.

Embedded Mitigation Measure	Description	Relevance																					
Climate Smart Protein Production	<p>Increasing the availability of sustainable, low carbon, protein options to the global population, through sustainable aquaculture, has the potential to reduce global greenhouse gas (GHG) emissions.</p> <p>Farmed Atlantic salmon has a carbon footprint of 0.60 kg CO₂eq per 40 g serving, which makes farmed Atlantic salmon more carbon efficient than the traditional terrestrial protein production systems such as beef and pork.</p>	Impacts on the climate as a result of operational activities.																					
Bakkafrost Climate Action	<p>BFS has allocated specific resources to investigate and implement low-carbon solutions across the value chain.</p> <p>BFS has set Science Based Targets initiative (SBTi) validated near-term climate targets, which are consistent with the reductions required to keep global warming to 1.5°C, which is aligned with the Paris Agreement.</p> <p>BFS has committed to reducing absolute Scope 1 and 2 GHG emissions by 50 % by 2030, from a 2020 baseline, whilst also committing to reducing Scope 3 GHG emissions by 52 % per tonne of product sold within the same timeframe.</p>	Impacts on the climate as a result of construction, operational, and decommissioning activities.																					
Infrastructure Specifications and Attestations	All infrastructure deployed at the Proposed Development, including the pens, feed barge, and mooring system, will be specifically designed and built to withstand the observed and predicted 1 in 50-year return period event. A mooring system analysis will be undertaken in order to determine the appropriate mooring system for the Proposed Development, this analysis will consider environmental conditions observed at the development location, as well as modelled worst-case environmental conditions relating to the 1 in 50-year return period.	Impacts on the Proposed Development as a result of climate change within the marine environment.																					
Marine Vessel Operational Capacity	<p>The associated primary marine vessels for the Proposed Development, the polarcirkel and workboat, can both operate and work safely in elevated sea states. Therefore, these vessels will not be a limiting factor in maintaining operations at the Proposed Development, despite it being located in an exposed and high energy location. Moreover, the secondary marine vessels, including wellboats and farming service vessels, are designed to operate safely in extreme weather conditions. The mooring system for the Proposed Development has also been modelled and designed to take into account wellboats moored alongside pens in elevated sea states associated with the 1 in 50-year return event.</p> <p>However, ensuring the health and safety of farm staff is paramount, therefore the decision to operate marine vessels in elevated sea states will be governed by BFS health and safety protocols.</p>	Impacts on the Proposed Development as a result of climate change within the marine environment.																					
Water Quality Monitoring	<p>Daily water quality monitoring will be undertaken at the Proposed Development, as is currently undertaken at all operational BFS marine fish farms. The following parameters are monitored:</p> <table><tr><th>Parameter</th><th>Pen / Farm Basis</th><th>Frequency</th></tr><tr><td>Dissolved Oxygen</td><td>Farm (at 5 m depth)</td><td>Twice Daily</td></tr><tr><td>Temperature</td><td>Farm (at 5 m depth)</td><td>Daily</td></tr><tr><td>Water Clarity (Secchi disc)</td><td>Farm</td><td>Daily</td></tr><tr><td>Salinity</td><td>Farm (at surface)</td><td>Daily</td></tr><tr><td>Plankton Sample</td><td>Farm (10 m vertical trawl)</td><td>Daily</td></tr><tr><td>Jellyfish Sample</td><td>Farm (10 m vertical trawl)</td><td>Daily</td></tr></table> <p>Potential mitigation when water quality parameters fall below optimal levels includes suspension of feeding and may involve aeration or oxygenation. All farms are risk assessed at the end of each production cycle to determine whether the risk of algae or jellyfish has changed, with mitigation measures reviewed as required.</p>	Parameter	Pen / Farm Basis	Frequency	Dissolved Oxygen	Farm (at 5 m depth)	Twice Daily	Temperature	Farm (at 5 m depth)	Daily	Water Clarity (Secchi disc)	Farm	Daily	Salinity	Farm (at surface)	Daily	Plankton Sample	Farm (10 m vertical trawl)	Daily	Jellyfish Sample	Farm (10 m vertical trawl)	Daily	Impacts on the Proposed Development as a result of climate change within the marine environment.
Parameter	Pen / Farm Basis	Frequency																					
Dissolved Oxygen	Farm (at 5 m depth)	Twice Daily																					
Temperature	Farm (at 5 m depth)	Daily																					
Water Clarity (Secchi disc)	Farm	Daily																					
Salinity	Farm (at surface)	Daily																					
Plankton Sample	Farm (10 m vertical trawl)	Daily																					
Jellyfish Sample	Farm (10 m vertical trawl)	Daily																					
Macro and Micro Jellyfish Monitoring	Daily (at minimum) jellyfish monitoring will be undertaken at the Proposed Development, as is currently undertaken at all operational BFS fish farms. This monitoring will cover both macro jellyfish and micro jellyfish. The results of this jellyfish monitoring will be used to determine the real time risk of a jellyfish environmental challenge on the stock. All jellyfish monitoring will be recorded on the Fishtalk farming management system.	Impacts on the Proposed Development as a result of climate change within the marine environment.																					

Embedded Mitigation Measure	Description	Relevance
	In the event that high numbers of jellyfish, particularly micro jellyfish, are observed onsite all feeding operations may be ceased, and the Site Manager will contact the Biology Department and the Head of Marine Production. Mortality and fish behaviour will be closely monitored and recorded. Water quality will be frequently monitored, to help identify safe windows for feeding to occur. Aeration systems will be reviewed to monitor effectiveness.	
Aeration and Upwelling Systems	All BFS marine fish farms are equipped with either an aeration system or upwelling system, these systems are deployed within each pen on the farms. This system will be deployed at the Proposed Development. These systems allow for both proactive and reactive procedures to maintain or improve water quality within the pens and ensure an optimal environment for the farmed stock.	Impacts on the Proposed Development as a result of climate change within the marine environment.
Sea Lice Skirts	BFS have trialled sea lice skirts at a number of farms. There is the potential that if needed sea lice skirts could be trialled at the Proposed Development.	Impacts on the Proposed Development as a result of climate change within the marine environment.
Research and Development (R&D)	BFS is constantly exploring the potential application of new technologies for deployment at marine fish farms, particularly technologies that monitor environmental parameters, and identify patterns within the data, that allow strategic decision making. BFS currently has a number of early stage R&D projects looking into environmental risk.	Impacts on the Proposed Development as a result of climate change within the marine environment.
Environmental Deoxyribonucleic acid (DNA) (eDNA)	BFS also makes effective use of eDNA technology in order to help understand plankton (including jellyfish) assemblage composition around BFS fish farms. These data are used to provide early warning, where possible, to potential harmful algal blooms (HAB).	Impacts on the Proposed Development as a result of climate change within the marine environment.

15.3 Baseline Condition

15.3.1 Study Area

The study area for the assessment of climate change impacts on the Proposed Development considers potential adverse weather and climate impacts within the Development Area only. However, baseline data on climate change at the national level is reviewed to determine the likely baseline condition for climate change within the study area.

15.3.2 Overview of Climate Change

The climate of the UK continues to change. Recent decades have been warmer, wetter and sunnier than the 20th century. The UK has warmed at a slightly higher rate than the observed change in global mean temperature.

A summary of key parameters related to climate change, that may have an impact on marine salmonid aquaculture production is provided in the below **Sub-Sections 15.3.2.1 to 15.3.2.4**.

15.3.2.1 Near Coast Sea Surface Temperature

For the second successive year, 2023 was the warmest year for UK near-coast sea surface temperature (SST) since 1870. For the most recent decade, 2014 to 2023, SST was on average 0.3 °C warmer than the 1991 to 2020 mean and 0.9 °C warmer than the 1961 to 1990 mean for SST⁸⁹.

Within the most recent decade, 2014 to 2023, for UK near-coast SST, six years of this decade are within the top ten warmest years for the complete series (1870)⁸⁹.

The majority of climate projections indicate that the northwest European shelf seas will continue to warm throughout the 21st century, with temperatures potentially increasing by 1 to 4 °C by the end of the 21st century⁹⁰.

15.3.2.2 Precipitation

In general, the UK's climate is getting wetter. However, there is large annual and decadal variability in the UK's climate, which influences precipitation. Furthermore, rainfall patterns across the UK are highly spatially and temporally variable. Rainfall totals for 2023 were above average across all of the UK, with the exception of western Scotland. The general characteristic of 2023 was that the second half of the year was wetter and more unsettled than the first half of the year. The period July to December was the wettest second half of the year on record for the UK. The UK rainfall total for 2023 was 1,319 mm which equates to 113 % of the 1991 to 2020 mean⁸⁹.

The most recent decade, 2014 to 2023, has been 2 % wetter than 1991 to 2000 and 10 % wetter than 1961 to 1990. In particular UK winters have been 9 % wetter than 1991 to 2020 and 24 % wetter than 1961 to 1990. The UK annual precipitation time-series from 1836 to 2023 shows the large annual variability inherent in the UK's climate. There has been an increase from the 1970s and 1980s onwards. The wettest year for the UK overall is 1872 and the driest 1855. Two years in the most recent decade 2014 to 2023 have been in the top-ten wettest (2020 and 2023)⁸⁹.

⁸⁹ Kendon, M., Doherty, A., Hollis, D., Carlisle, E., Packman, S., McCarthy, M., Jevrejeva, S., Matthews, A., Williams, J., Garforth, J. and Sparks, T., 2024. State of the UK Climate 2023. *International Journal of Climatology*, 44, pp.1-117. [Online] Available at: <https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/joc.8553>

⁹⁰ SG: Scotland's Marine Assessment 2020. Sea temperature. [Online] Available at: [https://marine.gov.scot/sma/assessment/sea-temperature#:~:text=In%20line%20with%20the%20global,Gallego%20%26%20Turrell%2C%202018\).](https://marine.gov.scot/sma/assessment/sea-temperature#:~:text=In%20line%20with%20the%20global,Gallego%20%26%20Turrell%2C%202018).)

Projections indicate that climate change throughout the 21st century will likely result in a general move towards warmer, wetter winters and hotter, drier summers. However, natural variation will likely result in some cold winters, some dry winters, some cool summers, and some wet summers⁹¹.

15.3.2.3 Wind Speed and Windstorms

The 2023 to 2024 storm season had its most active start with respect to the number of named storms since storm naming was introduced in 2015, between the period September to December a total of seven storms were named. Despite this active start to the storm season, overall 2023 was comparable in storminess with other years in recent decades, since 2000, in terms of occurrences of maximum gust speeds exceeding 40/50/60 knots. Over the last two decades, there have been less occurrences of maximum gust speeds above the 40/50/60 knot thresholds than the previous decades, particularly when comparing the period before and after 2000⁸⁹.

The UK mean wind speed for 2023 was slightly below the 1991 to 2020 mean, and there has been a downward trend in the UK annual mean wind speed between 1969 to 2023, which is consistent with the global stilling phenomenon seen on a larger scale⁸⁹.

Global projections for the UK indicate an increase in near surface (10 m height) wind speeds over the UK for the second half of the 21st century for the winter season when more significant impacts of wind are experienced^{92,93}. This is projected to be accompanied by an increase in the frequency of winter storm events over the UK. This projection is supported by the fact that 2023 saw an active start to the winter storm season, with seven named storms recorded between September and December⁸⁹. However, the projected increase in wind speeds is considered modest when compared to interannual variability. The numbers of intense windstorms during winter are also likely to increase for most regions of the UK. Windstorm intensity is also likely to increase during winter, which will lead to more extreme windstorms⁹³.

These projections are in line with earlier findings by Pryor and Barthelmie (2010)⁹⁴ who concluded that in the near-term (i.e., to the middle of the current century) there will be no detectable significant change in the wind resource of northern Europe.

15.3.2.4 Sea-Level Rise

Since the beginning of the 20th century, sea levels in the UK have risen by about 1.5 +/- 0.1 mm/year, however, observational data suggests that this rate is increasing, which aligns to estimates of sea level rise on a global scale. Available data from the UK tidal gauge network indicates that 2023 was an exceptional year, with the highest annual mean on record at the long running Newlyn tidal gauge, and with either the highest or second highest at all but one tide gauge returning an annual mean, this includes the tidal gauge at Stornoway on the Outer Hebrides.

The rate of sea level rise in the UK is increasing over time, with the rate of sea level rise since the 1960s increasing to 2.4 +/- 0.3 mm/year from the long-term estimate of 1.5 +/- 0.1 mm/year since the 1900s. More recently, changes have become more pronounced, and during 1993 to 2023, sea level has risen at a rate of 4.6 +/- 0.9 mm/year, this rate of increase gives a total sea level rise of 14 cm since 1993, which aligns well to the global mean sea level rise estimate of 10.1 cm. In terms of extreme sea level,

⁹¹ UKCP 2018. Factsheet: Precipitation. [Online] Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-factsheet-precipitation.pdf>

⁹² UK Climate Projections (CP) 2018. Factsheet: Wind. [Online] Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-fact-sheet-wind_march21.pdf

⁹³ UKCP 2018. Factsheet: Storms. [Online] Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-factsheet-storms.pdf>

⁹⁴ Pryor, S.C. and Barthelmie, R.J., 2010. Climate change impacts on wind energy: A review. Renewable and sustainable energy reviews, 14(1), pp.430-437. [Online] Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1364032109001713>

there were a total of 16 extreme storm surge events in 2023, with 13 of these events associated within named storms.

The UK Climate Projections 2018 (UKCP18) indicate that sea-level rises are predicted under all Representative Concentration Pathways (RCPs), as indicated in **Table 15.2**.

Table 15.2: Summary of the Predicted UKCP18 sea level changes under a range of RCPs.

UK Capital Cities	Sea Level Change in 2100 (m) Relative to the 1981 - 2000 Mean		
	RCP 2.6	RCP 4.5	RCP 8.5
London	0.29 - 0.70	0.37 - 0.83	0.53 - 1.14
Cardiff	0.27 - 0.68	0.35 - 0.81	0.51 - 1.13
Edinburgh	0.08 - 0.49	0.15 - 0.61	0.30 - 0.90
Belfast	0.11 - 0.52	0.18 - 0.64	0.33 - 0.94

15.3.2.5 Wave Climate

Wave trends are typically considered to be highly sensitive and affected by substantial short-term variability. In particular the North Atlantic is known to display high interannual and decadal variability in sea state⁹⁵. Between 1960 and the early 1990s, there was a positive upward trend in wave heights, within the Northeast Atlantic, which was attributed to Atlantic swell rather than locally generated wind sea. However, in contrast, between 1992 and 2017 a negative trend in wave heights was detected within the North Atlantic⁹⁸.

Global wave model projections indicate that in the future (2070 to 2099) mean significant wave height (Hs) around much of the UK coast is likely to decline by 10 to 20 % over the 21st century. This projected decline in Hs is not spatially uniform, as whilst reductions in Hs are predicted for the northeast Atlantic, Hs is projected to increase, by 0.2 m in the North Sea⁹⁶.

Regional wave models align with the global models and indicate that in the future (2081 to 2100) there is likely to be a reduction in mean Hs of 10 % for the majority of the UK coastline⁹⁶.

Whilst there is an overall trend in reduction of mean Hs, projections indicate that the most severe waves could increase in height by 2100 under a high-emissions scenario⁹⁶.

15.3.3 Overview of the Vulnerability of the Proposed Development to Climate Change

15.3.3.1 Fish Health and Welfare

Due to the nature of marine open pen production, salmon farms are considered sensitive to the marine environment and any potential changes. As such, variation to specific parameters including water temperature, dissolved oxygen concentration, and salinity, have the potential to influence fish health and welfare outcomes.

The feeding and growth rates of poikilotherms (organisms that cannot regulate their body temperature except by behavioural means such as basking or burrowing) are highly sensitive to temperature changes, with both feeding and growth rates typically increasing towards an optimum temperature and

⁹⁵ Hochet, A., Dodet, G., Ardhuin, F., Hemer, M. and Young, I., 2021. Sea state decadal variability in the North Atlantic: A review. *Climate*, 9(12), p.173. [Online] Available at: <https://www.mdpi.com/2225-1154/9/12/173>

⁹⁶ Palmer, M., Howard, T., Tinker, J., Lowe, J., Bricheno, L., Calvert, D., Edwards, T., Gregory, J., Harris, G., Krijnen, J. and Pickering, M., 2018. UKCP18 marine report. [Online] Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-marine-report-updated.pdf>

then rapidly falling off if the temperature exceeds the optimum level. Salmon exhibit good growth rates between 10°C and 18°C, with growth rates dropping off significantly when temperature either falls below 6°C or exceeds 18°C. However, SST temperature projections for 2100 indicate that temperature will remain mostly below 18°C, and therefore suitable for salmon aquaculture. Moreover, as temperatures rise towards 18°C, growth rates of salmon are likely to increase⁹⁷.

Climate driven changes in key parameters within the marine environment may result in increased pressures associated with certain diseases and parasites, primarily gill disease and sea lice. In general these pressures are likely to increase in the short-term and get worse in the longer term. The occurrence of HABs and jellyfish blooms may also increase as climate change drives variation in key parameters, such as SST. These blooms may have significant impact on fish health and welfare, as well as the economic viability of production cycles⁹⁷.

15.3.3.2 Stock Containment

Climate change may impact storminess, including winds and waves heights^{89,92,93,98}. If this is the case, this may result in damage and or failure of aquaculture infrastructure. Failure of infrastructure may lead to the escape of fish stock into the marine environment, the ecological consequences of which are considered in **Section 6** of this Report. Additionally, daily operations and access to the Proposed Development may be negatively impacted by the increased occurrence of bad weather resulting in health and safety concerns for fish stock and farm staff.

15.4 Proposed Approach to the Environmental Impact Assessment

The climate change EIA will follow the assessment methodology outlined in **Sub-Section 2.2**.

15.4.1 Data Collection Approach

A comprehensive DBA has been undertaken to describe the baseline climate, and the vulnerability of salmonid aquaculture to climate change within the study area. It is determined that no additional analysis is required.

Data identified and utilised for analysis within this Report is presented in **Table 15.3**.

Table 15.3: Key publicly available data sources for the climate change baseline condition.

Source	Summary	Spatial Coverage
UK Climate Projections 2018 (UKCP18) ⁹⁹	The UKCP is a set of tools and data that illustrate how the UK climate may change in the future.	UK wide.
State of the UK Climate ⁸⁹	Annual publication which provides an up-to-date assessment of the UK climate. The report reviews the climate and significant meteorological events of the year.	UK wide.

⁹⁷ Collins, C., Bresnan, E., Brown, L., Falconer, L., Guider, J., Jones, L., Kennerley, A., Malham, S., Murray, A. and Stanley, M., 2020. Impacts of climate change on aquaculture. [Online] Available at: https://pureadmin.uhi.ac.uk/ws/portalfiles/portal/40233844/21_aquaculture_2020_2.pdf

⁹⁸ Bricheno, L., Amies, J.D., Chowdhury, P., Woolf, D.K. and Timmermans, B., 2023. Climate change impacts on storms and waves relevant to the UK and Ireland. [Online] Available at: <https://researchportal.hw.ac.uk/en/publications/climate-change-impacts-on-storms-and-waves-relevant-to-the-uk-and>

⁹⁹ UK Climate Projections. [Online] Available at: <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp>

Source	Summary	Spatial Coverage
Impacts of Climate Change on Aquaculture ⁹⁷	Review of the potential impacts of climate change on UK aquaculture production.	UK wide.
Climate Change Impacts on Storms and Waves Relevant to the UK and Ireland ⁹⁸	Review of the potential impacts of climate change on storm and wave climate in the UK and Ireland.	UK and Ireland.

15.4.2 Pre-Application Consultation and Engagement

During the pre-application phase of the development programme, BFS will consult and engage with key stakeholders to ensure that their views are considered within the design and operation of the Proposed Development.

Full detail on any pre-application communications will be presented within the EIAR.

15.5 Identified Potential Impacts

Potential impacts of the Proposed Development on climate change and potential impacts of climate change on the Proposed Development (vulnerability) have been identified which may occur during the construction, operation, and decommissioning phases of Proposed Development. Potential impacts are outlined in **Table 15.4**, along with the scoping determination and rationale.

Table 15.4: Scoping determination and rationale for climate change.

Identified Receptor	Development Phase	Impact Pathway	Rationale	Scoping Outcome
UK Climate; and The Proposed Development (Vulnerability).	Construction	Impacts on the climate as a result of construction activities	<p>The worst-case installation time for the Proposed Development is likely to be approximately 23 days. As such, this impact pathway is considered to be short-term and temporary in nature.</p> <p>The embedded mitigation, outlined in Sub-Section 15.3, particularly BFS's commitment to climate action and the SBTi validated climate targets designed to reduce Scope 1, 2 and 3 emissions, are considered to sufficiently mitigate impacts.</p> <p>As such, this impact pathway is determined to be unlikely to result in anything other than insignificant effects.</p>	Scoped Out
	Operation	Impacts on the climate as a result of operational activities	<p>Impact pathways associated with the operational phase of the Proposed Development are anticipated to persist over the long-term, as the Proposed Development has no defined decommissioning date.</p> <p>The embedded mitigation, outlined in Sub-Section 15.3, particularly BFS's commitment to climate action and the SBTi validated climate targets designed to reduce Scope 1, 2 and 3 emissions, and the inherent carbon efficiencies of sustainable aquaculture production, are considered to sufficiently mitigate impacts.</p> <p>As such, this impact pathway is determined to be unlikely to result in anything other than insignificant effects.</p>	Scoped Out
		Impacts on the Proposed Development as a result of climate change within the marine environment	<p>As the Proposed Development will be operational over the long-term, impacts of climate change on the Proposed Development are likely to persist over longer timescales, and may increase in magnitude if the climate deviates further from baseline conditions.</p> <p>The embedded mitigation, outlined in Sub-Section 15.3, particularly the infrastructure specifications and attestations, the marine vessel operational capacity, and the water quality monitoring protocol, are considered to sufficiently mitigate impacts.</p> <p>As such, this impact pathway is determined to be unlikely to result in anything other than insignificant effects.</p>	
	Decommissioning	Impacts on the marine climate as a result of decommissioning activities	<p>The impacts for the decommissioning phase will be similar to the impacts for the construction phase. As such, it is determined that impacts associated with the decommissioning of the Proposed Development can be scoped out of further assessment.</p>	Scoped Out

15.5.1 Summary of EIA Scope

Based upon the thorough scoping assessment conducted in **Sub-Section 15.5**, it is determined that the Proposed Development, when considering the embedded mitigation measures outlined in **Sub-Section 15.2** is unlikely to have significant effects on the climate or be significantly affected by climate change. As such, it is proposed that this topic is scoped out of further consideration.

Where embedded mitigation measures have enabled the scoping out of environmental topics, such as is the case here, these measures must be retained in considering and determining the Application. Therefore, BFS is committed to the full implementation of the embedded mitigation, detailed in **Sub-Section 15.2**. As such, embedded mitigation measures for climate change will be restated within the EIAR in order to demonstrate commitment to their implementation.

Pre-application consultation and engagement, as detailed in **Sub-Section 15.4.2** will however be undertaken and presented within the EIAR. In the event that this pre-application consultation identifies potential receptors or impact pathways not considered in **Sub-Section 15.5** further assessment will be undertaken and presented within the EIAR.

16 Structure of EIAR

Based upon the conclusions drawn from this Report, in addition to the requirements of the EIA Regulations, the EIAR is proposed to be structured as follows:

- Non-Technical Summary (NTS);
- Chapter 1: Introduction;
- Chapter 2: The Aquaculture Consenting Framework;
- Chapter 3: The EIA Process and Methodology;
- Chapter 4: Description of the Proposed Development;
- Chapter 5: Alternative Options and Design Innovation;
- Chapter 6: Consultation and GAP Analysis;
- Chapter 7: Benthic Ecology;
- Chapter 8: Wild Salmonids;
- Chapter 9: Commercial Fisheries;
- Chapter 10: Seascape, Landscape, and Visual Assessment;
- Chapter 11: Socio-Economic;
- Chapter 12: Summary of Mitigation;
- Chapter 13: Conclusion; and
- Technical Appendices.