

Balliemeanoch Pumped Storage Hydro

Environmental Impact Assessment
Report

Volume 2: Main Report
Chapter 20: Commercial Fisheries

ILI (Borders PSH) Ltd

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Quality information

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20. Commercial Fisheries

20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) has been prepared by Brown and May Marine Ltd and presents the assessment of the likely significant effects (as per the “EIA Regulations”) of the Balliemanoach Pumped Storage Hydro (PSH) which is the subject of this application (hereafter referred to as the ‘Development’), on commercial fisheries. Specifically, this chapter considers the potential impacts of the Marine Facility associated with the Development, during the construction and operational phases of the Marine Facility. A full description of the Marine Facility is presented in *Chapter 2: Project and Site Description*.

Likely significant effect is a term used in both the “EIA Regulations” and the Habitat Regulations. Reference to likely significant effect in this EIAR refers to “likely significant effect” as used by the “EIA Regulations”.

The assessment presented is informed by the following technical chapters:

- Chapter 08: Marine Ecology; and
- Chapter 19: Shipping and Navigation.

Accompanying this chapter are the following figures which can be found within EIAR *Volume 3 Figures* (aside from 20.7 & 20.8 which are embedded within this chapter):

- Figure 20 1: Commercial Fisheries Study Area
- Figure 20 2: Annual Landings Value (£) By Species (Average 2017 – 2021).
- Figure 20 3: Annual Landings Value (£) By Method (Average 2017 – 2021)
- Figure 20 4: Upper Loch Fyne and Loch Goil Nature Conservation Marine Protected Area
- Figure 20 5: Electrofishing for Razor Clams Trial Areas
- Figure 20 6: Ports Local to the Marine Facility
- Figure 20 7: Landings (£) by Species in Local Ports (Annual Average 2021 – 2022) (Marine Management Organisation , 2023) (within this chapter)
- Figure 20 8: Landings by Gear in Local Ports (Annual Average 2021 – 2022) (Marine Management Organisation , 2023) (within this chapter)
- Figure 20 9: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) - Dredges
- Figure 20 10: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) - Bottom Trawl
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- Figure 20 18: Inshore Fishing –Nephrops Trawl– Value (£)
- Figure 20 19: Inshore Fishing – Crab & Lobster Pots – Value (£)

20.2 Legislation and Policy

Policy on energy infrastructure is presented in the standalone planning statement submitted with the EIAR. Policy specifically in relation to commercial fishing is contained in the Scottish National Marine Plan (SNMP). A summary of SNMP policy provisions related to commercial fisheries is provided in *Table 20.1: Summary of SNMP Policies*

Relevant to Commercial Fisheries. This is focused on those directly of relevance to commercial fisheries in the context of the assessment presented in this chapter.

Table 20.1: Summary of SNMP Policies Relevant to Commercial Fisheries

Summary of Relevant Policy Framework	How and Where Considered in the Offshore EIA Report
<p>General Planning Principle (GEN) Policies</p> <ul style="list-style-type: none"> • GEN-4 – Co-existence: Proposals which enable coexistence with other development sectors and activities within the Scottish marine area are encouraged in planning and decision-making processes, when consistent with policies and objectives of the Plan. 	<p>Due consideration has been given to the potential impacts of the Marine Facility on commercial fisheries within this chapter. This has been informed through the collection of information on fisheries activities and a review of available fisheries data as shown in <i>Section 20.5.3.1: Desktop Study</i>.</p>
<p>Fisheries, Marine Planning Policies</p> <ul style="list-style-type: none"> • FISHERIES 1 – Taking account of the European Union (EU)'s Common Fisheries Policy, Habitats Directive, Birds Directive and Marine Strategy Framework Directive, marine planners and decision makers should aim to ensure: <ul style="list-style-type: none"> – existing fishing opportunities and activities are safeguarded wherever possible; – protection of vulnerable stocks (in particular juvenile and spawning stocks through continuation of sea area closures where appropriate); – that other sectors take into account the need to protect fish stocks and sustain healthy fisheries for both economic and conservation reasons; and • FISHERIES 2 - The following key factors should be taken into account when deciding on uses of the marine environment and potential impacts on fishing: <ul style="list-style-type: none"> – the cultural and economic importance of fishing, in particular vulnerable coastal communities; – the potential impact (positive and negative) of marine developments on the sustainability of fish and shellfish stocks and resultant fishing opportunities in any given area; - the environmental impact on fishing grounds (such as nursery, spawning areas), commercial fisheries species, habitats and species more generally; and – the potential effect of displacement on fish stocks; the wider environment; use of fuel; socio-economic costs to fishers and their communities and other marine users. 	<p>Due consideration has been given to the potential impacts of the Marine Facility on commercial fisheries within this chapter. This has been informed through the collection of information on fisheries activities and a review of available fisheries data as shown in <i>Section 20.5.3.1: Desktop Study</i>.</p> <p>Consultation with the fishing industry has been conducted and informed this assessment. Consultation will continue post-consent, throughout the construction, operation and maintenance phases as required.</p> <p>The potential impacts of the Marine Facility on fish and shellfish stocks, including potential impacts on habitats, spawning and nursery grounds (including on species of commercial importance) have been assessed and are discussed in <i>Chapter 08: Marine Ecology</i>. Potential knock-on effects of impacts on fish and shellfish species on the fisheries that target them as well as the impact of displacement of fishing activities into other areas are assessed in <i>section 20.7 Assessment of Effects</i>.</p> <p>Socio-economic effects, including aspects of relevance to fishing communities are discussed in <i>Chapter 16: Socioeconomics, Recreation and Tourism</i>. Impacts on other sea users are addressed in <i>Chapter 19: Shipping and Navigation</i>.</p>
<p>Sea Fisheries, Interactions with Other Users</p> <ul style="list-style-type: none"> • Updated Paragraphs 6.22 to 6.26: <ul style="list-style-type: none"> – There are some key emerging issues concerning the interactions between the fishing industry and other interests which should be borne in mind of any proposed marine development and factored into marine planning processes. In respect of developments this includes: <ul style="list-style-type: none"> ▪ There is also potential for damage to occur to both infrastructure and fishing equipment as a result of interactions, with obvious safety implications. New developments should take into account the intensity of fishing activity in the proposed development area and any likely displacement which the development and associated activity could precipitate, with resultant increased pressure on remaining, often adjacent, fishing grounds. ▪ There may be potential for some infrastructure or development areas to act as nursery grounds for fish and, if appropriately protected, these may lead to an increase in fish stocks in the surrounding 	<p>The potential impact of loss of fishing grounds as a result of the Marine Facility and associated displacement of activity is assessed in <i>section 20.7 Assessment of Effects</i>.</p> <p>The potential impacts of the Development on fish and shellfish stocks, including potential impacts on habitats, spawning and nursery grounds (including on species of commercial importance) has been assessed and are discussed in <i>Chapter 08: Marine Ecology</i>.</p>

Summary of Relevant Policy Framework

How and Where Considered in the Offshore EIA Report

areas. This possibility should be considered on a case-by-case basis.

20.3 Consultation

The Balliemeanoch Pumped Storage Hydro Scheme Scoping Opinion (Scottish Government Energy Consents Unit, 2023) and advice of relevance to the Development and commercial fisheries is summarised in *Table 20-2: Summary of Scoping Opinions and Advice*.

In addition to feedback on commercial fisheries aspects received as part of the Scoping Opinion and Advice, due consideration has been given in this chapter to the outputs of the additional consultation carried out with fisheries stakeholders which is detailed in *Table 20.3: Summary of Consultation*, below.

Table 20-2: Summary of Scoping Opinions and Advice

Consultee	Consultee Response	Summary of Response	Action Taken
Maritime Coastguard Agency (MCA)	It is not clear from the Scoping Report the extent of the works required in the marine environment for the tail pond inlet/outlet structure located to the north of the site on Loch Awe, and any potential impact on shipping and navigation. It is our understanding that this location falls outside of any statutory harbour authority jurisdiction. The MCA would therefore expect consideration to be given to the impact of the proposed works on shipping and navigation, relative to the scale of the works, including any potential impact on fishing, recreational and commercial vessels. It is likely that any risk can be mitigated through suitably worded conditions and advisories at the formal marine licencing stage.	Concerned regarding the scale of works required in Loch Awe for the tail pond and any potential shipping and navigation impacts.	The potential impacts of the Development on shipping and navigation, including commercial fishing vessels, have been given due consideration in <i>Chapter 19: Shipping and Navigation</i> .
Scottish Fishermen's Federation (SFF)	Having discussed this we do not think it will have any impact on our members, so consider us a Nil Response.	No anticipated impacts on SFF members.	The feedback provided by fisheries stakeholders has been accounted for within the baseline characterisation and impact assessment presented in this chapter.

In addition to statutory consultee responses to the Scoping Report, consultation was undertaken to inform the baseline and subsequent impact assessment via email and face-to-face meetings. Consultees were asked to describe their, or their members, fishing activity in relation to the location of the proposed Development's 'Marine Facility'. Consultees were then asked if they had any concerns or feedback regarding the Marine Facility. The consultation undertaken and feedback provided by consultees is summarised in *Table 20.3: Summary of Consultation*. This has been integrated into the baseline characterisation as well as the impact assessment as appropriate.

Face-to-face consultation was conducted during visits to the following local harbours from 27/10/2023 – 28/10/2023:

- Inveraray;
- Tarbert; and
- Strachur.

Table 20.3: Summary of Consultation

Consultee	Method and Date	Consultation	Summary of Response	Action Taken
Campbelltown Fisheries Office	Email 19/09/2023 – 02/10/2023	Email consultation with Campbelltown Fisheries Office to introduce the Development and	The local fisheries office advised that there are only two creel vessels targeting <i>Nephrops</i> working in the	The information gathered via consultation has been used to inform the baseline characterisation and impact

Consultee	Method and Date	Consultation	Summary of Response	Action Taken
		gather information regarding fishing activities in waters adjacent to the Marine Facility.	upper reaches of Loch Fyne. Demersal trawling and dredging in the area is banned within the Upper Loch Fyne and Loch Goil Nature Conservation Marine Protected Area (NCMPA).	assessment presented in this chapter.
Clyde Fishermen's Association (CFA)	Email 19/09/2023 – 20/10/2023	Email consultation with CFA to introduce the Development. Requested any comments or concerns regarding the Marine Facility were highlighted.	The CFA circulated plans and information regarding the Marine Facility amongst their members. No CFA members provided any feedback or raised any concerns.	The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.
Fisher: Inveraray	In-person 27/10/2023	In-person consultation with fisher moored in Inveraray during harbour visit. Introduced the Development and asked if there were any comments or concerns regarding the Marine Facility.	Stated that they fish further out into the loch and therefore had no concerns regarding the Marine Facility. Advised that there was only one other vessel fishing the area moored in Strachur.	<ul style="list-style-type: none"> • Consulted with Strachur Mooring Association via email to gather feedback from boat moored there regarding the Marine Facility. • The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.
Local shellfish merchant	In-person 27/10/2023	In-person consultation with local shellfish merchant during harbour visit. Introduced the Development and requested information regarding fishing activity in waters adjacent to the Marine Facility.	Advised that there is no trawling activity past 'Inveraray Golf Course', which is situated between Auchnabreac and Inveraray. They knew of two creelers working in the area, one moored in Inveraray and one moored in Strachur.	<ul style="list-style-type: none"> • Met with fisher based in Inveraray regarding Marine Facility. • Consulted Strachur Mooring Association via email to gather feedback from boat moored there regarding the Marine Facility. • The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.
Strachur Moorings Association	Email 02/10/2023 – 11/10/2023	Skipper/owner of fishing vessel moored in Strachur was not available during harbour visit. Email consultation with mooring association. Introduced the Development and asked if the Association for any comments or concerns regarding the Marine Facility.	The following feedback was provided: <i>"We do not believe that a temporary jetty in the vicinity of Inveraray would impact greatly on the fishing of the Strachur based boat."</i>	The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.
Tarbert Harbour Authority	In-person 28/10/2023	In-person consultation with harbour authority during harbour visit. Introduced the Development and requested information regarding fishing activity in waters adjacent to the Marine Facility.	Advised that there is very little fishing past Ardrishag, and there is no trawling in Loch Fyne past Inveraray.	The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.
South West Coast Regional Fisheries (SWCRIFG)	Email 19/09/2023 – 11/10/2023	Email consultation with SWCRIFG to introduce the Development. Requested any comments or concerns regarding the Marine Facility were highlighted.	The SWCRIFG circulated plans and information regarding the Marine Facility amongst their members. No SWCRIFG members provided any feedback or raised any concerns.	The information gathered via consultation has been used to inform the baseline characterisation and impact assessment presented in this chapter.

20.4 Study Area

The Marine Facility is situated within the Upper Loch Fyne (*Figure 20 1: Commercial Fisheries Study Area (Volume 3: Figures)*). Fisheries data are recorded and collated by International Council for the Exploration of the Sea (ICES) statistical rectangles. The commercial fisheries study area has therefore been defined with reference to the ICES rectangles which are as follows:

- ICES rectangle 41E4 - encompasses the Marine Facility and Upper Loch Fyne.

The commercial fisheries Study Area defined in above and (*Figure 20 1: Commercial Fisheries Study Area (Volume 3: Figures)*) has been used to identify fishing activities of relevance in the immediate area of the Marine Facility. Where relevant, data and information have been analysed for wider areas to provide context and describe the wider extent of activity of the fisheries included in the assessment.

20.5 Methods

The commercial fisheries baseline and impact assessment have been informed through the review and analysis of available fisheries data and information from relevant publications. In addition, consultation with local fisheries stakeholders has been conducted to aid in defining the baseline and carrying out the impact assessment.

20.5.1 Guidance and Standards

The commercial fisheries assessment of effects has followed the methodology set out in *Chapter 4: Approach to EIA* of the EIAR. Specific to the commercial fisheries assessment, the following guidance documents have also been considered:

- Seafish Industry Authority and UK Fisheries Economic Network (UKFEN) (2012) Best practice guidance for fishing industry financial and economic impact assessments; and
- Marine Scotland Science (2022). Assessing fisheries displacement by other licensed marine activities: good practice guidance, by Xodus for the Scottish Government.

20.5.2 Assessment Scope

The assessment considers the effects during two phases of the Development lifespan as identified in *Chapter 2: Project and Site Description*. The phases include: construction and operation. Decommissioning has been scoped out of assessment as the lifetime of the project is estimated to be around 100 years.

As the assessment presented in this chapter solely considers commercial fisheries, only potential effects arising from the 'Marine Facility', as described in *Section 2.11 of Chapter 2: Project and Site Description*, have been assessed.

Impacts arising from potential indirect effects (e.g., through sedimentation or effects on fish or shellfish as ecological receptors) will be primarily documented in the relevant receptor chapters of the EIAR. Any residual effects once mitigation measures have been applied will then, if necessary, be considered for their secondary impact on commercial fishing activity.

The assessment considers the following 'likely significant effects' identified during scoping:

- Construction phase:
 - Temporary loss or restricted access to commercial fishing grounds due to movement of vessels involved in construction;
 - Displacement of commercial fishing activities;
 - Obstruction of navigation / steaming routes to commercial fishing grounds; and
 - Indirect effects on commercial fisheries due to impacts on the ecology of fish and shellfish species.
- Operational phase:
 - Permanent loss or restricted access to commercial fishing grounds due to the placement of the Marine Facility;
 - Permanent displacement of commercial fishing activities;

- Obstruction of navigation / steaming routes to commercial fishing grounds; and

Indirect effects on commercial fisheries as a result of impacts on the ecology of fish and shellfish species.

20.5.3 Baseline Data Collection

20.5.3.1. Desktop Study

Information on commercial fisheries within the commercial fisheries study area was collected through a detailed desktop review of existing studies and datasets. These are summarised in *Table 20.4: Summary of Key Fisheries Data and Information*.

Table 20.4: Summary of Key Fisheries Data and Information

Dataset	Year	Coverage	Notes and Limitations
Landings Data by ICES Rectangle, Management Organisation (Marine Management Organisation , 2022)	2017-2021	Landings statistics data for UK-registered vessels including: landing year; landing month; vessel length category; ICES rectangle; vessel/gear type; species; live weight (tonnes); and live weight (value (£)).	<ul style="list-style-type: none"> • Landings data by ICES rectangle are available for areas of relevance to the proposed Development from both the MMO and Marine Scotland. • Although the landings datasets provided by both are the same, the format in which the dataset is provided by the MMO allows a more detailed analysis of information and has therefore been used in the assessment (i.e. data can be filtered for a given method by species, etc). • Landings data has been analysed by value (£) and presented as an annual average for the period 2017-2021. • It should be noted that fishing is normally not equally distributed across the whole area of an ICES rectangle and therefore overall activities identified for a given rectangle may not be necessarily representative of the activity that the specific area where the Marine Facility is located supports.
UK fleet landings and foreign fleet landings by UK port (Marine Management Organisation , 2023)	2021 - 2022	Landings statistics data for UK-registered and foreign vessels including: landing year; landing month; vessel length category; ICES rectangle; vessel/gear type; species; live weight (tonnes); and live weight (value (£)).	<ul style="list-style-type: none"> • Landings data by port for the years 2021 and 2022 are 'provisional'. • Landings data has been analysed by value (£) and presented as an annual average for the period 2021 – 2022. Data for 2020 was redacted by the MMO, and prior to 2020 data was collated in a different format. • It should be noted that fishing landed to a port is not always caught in the waters adjacent to the port, and therefore overall activities identified for a given port may not be necessarily representative of the activity that the specific area where the Marine Facility is located supports.
ScotMap – Inshore Fisheries Mapping Project in Scotland (Kafas, et al., 2014)	2007 - 2011	<p>Spatial information on the fishing activity of Scottish-registered commercial fishing vessels under 15 m in length.</p> <p>The data was collected during face-to-face interviews with individual vessel owners and operators and relate to fishing activity for the period 2007 – 2011. Interviewees were asked to identify the areas in which they fish, and to provide associated information on their fishing vessel, species targeted, fishing gear used, and income from fishing.</p>	<ul style="list-style-type: none"> • Monetary value (£) maps have been used to inform this report. • The information provided in this dataset is based on information gathered via interviews with a sample of fisheries stakeholders and is therefore not necessarily representative of the views of all stakeholders. • In addition, the data was collected between 2007 and 2011, and may therefore not be fully representative of current activities.
Scottish fishing vessels under 12m overall length – gridded fisheries data within Scottish waters	2017 - 2021	Owners or masters of Scottish fishing vessels under 12 m overall length must declare a latitude and longitude position	<ul style="list-style-type: none"> • Data is derived from positions self-declared by fishers. These positions have not been verified by other sources.

Dataset	Year	Coverage	Notes and Limitations
(Scottish Government, 2022) (Contains information from the Scottish Government (Marine Scotland) licensed under the Open Government Licence v3.0.)		(DD MM) on each fishing day indicating where the majority of the catch was taken. This dataset aggregates the positions declared along with the associated catch weight and values, into C-Squares of 0.05 x 0.05 decimal degrees. The data is grouped into sectors of: <ul style="list-style-type: none"> "Pots and traps" - e.g. creels for crabs, lobsters, or Nephrops; whelk pots; or wrasse traps "Bottom trawls" - e.g. bottom trawls for Nephrops, squid, or demersal fish "Dredges" - e.g. dredging for bivalve molluscs such as scallops and surf clams "Rod and lines" - e.g. handlines or jigging for mackerel; set lines for demersal fish "Other" - e.g. set nets; diving; hand gathering etc 	<ul style="list-style-type: none"> No data is shown if there are less than 5 vessels in a c-square to protect fisher anonymity.

20.5.4 Assessment Methodology

20.5.4.1. Assessment of Effects

The process for determining the significance of effects is a two-stage process that involves defining the magnitude of the potential impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in *Chapter 4: Approach to EIA of the EIAR*.

The criteria for defining magnitude in this chapter are outlined in *Table 20.5: Definition of Terms Relating to the Magnitude of an Impact*. In determining magnitude within this chapter, each assessment considered the spatial extent, duration, frequency, and reversibility of impact and these are outlined within the magnitude section of each assessment of effects (e.g. a duration of hours or days would be considered for most receptors to be of short-term duration, which is likely to result in a low magnitude of impact).

Table 20.5: Definition of Terms Relating to the Magnitude of an Impact

Magnitude of Impact	Definition
High	The area affected by the impact sustains very high levels of fishing activity and/or represents a critical fishing ground for a given fishery/fleet; and/or the effect is permanent/very long term; and/or limited fisheries liaison or management measures can be implemented.
Medium	The area affected by the impact sustains high/moderate levels of fishing activity and represents a significant extent of the grounds available to a given fishery/fleet; and/or the effect is long term; and/or some suitable fisheries liaison or management measures can be implemented.
Low	The area affected by the impact sustains low/moderate levels of fishing activity and represents a relatively small extent of the grounds available to a given fishery/fleet; and/or the effect is short to medium term; and/or a range of suitable liaison or management measures can be implemented.
Negligible	The area affected by the impact sustains low/negligible levels of fishing activity and/or affects a small/negligible extent of grounds; and/or the effect is very short term.

The criteria for defining sensitivity in this chapter are outlined in *Table 20.6: Definition of Terms Relating to the Sensitivity of the Receptor*.

Table 20.6: Definition of Terms Relating to the Sensitivity of the Receptor

Magnitude of Impact	Definition
High	Very limited operational range and lack of operational versatility (ability to deploy only one gear type and limited range of target species); and/or high dependence on a single fishing ground; and/or no or very limited ability to adapt to the potential impact.
Medium	Limited operational range and/or some versatility with regards to fishing gear/target species; and/or dependence upon a limited number of grounds; and/or limited ability to adapt to the potential impact.
Low	Extensive operational range and/or versatility with regards to fishing gear/target species; and/or ability to exploit a varied range of fishing grounds; and/or high adaptability to the potential impact.
Negligible	Very extensive operational range and/or versatility with regards to fishing gear/target species; and/or ability to exploit numerous and extensive fishing grounds; and/or fully adaptable to the potential impact.

The significance of the effect upon commercial fisheries is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in *Chapter 4: Approach to EIA*.

In cases where a range is suggested for the significance of effect, there remains the possibility that this may span the significance threshold (i.e. the range is given as minor to moderate). In such cases, the final significance conclusion is based upon the author's professional judgement as to which outcome delineates the most likely effect, with an explanation as to why this is the case. Where professional judgement is applied to quantify final significance from a range, the assessment will set out the factors that result in the final assessment of significance. These factors may include the likelihood that an effect will occur, data certainty and relevant information about the wider environmental context.

For the purposes of this assessment:

- a level of residual effect of moderate or more will be considered a 'significant' effect in terms of the EIA Regulations; and
- a level of residual effect of minor or less will be considered 'not significant' in terms of the EIA Regulations.

Effects of moderate significance or above are therefore considered important in the decision-making process, whilst effects of minor significance or less warrant little, if any, weight in the decision-making process. A matrix used for the assessment of the significance of the effect is provided in *Chapter 4: Approach to EIA*.

20.5.5 Limitations And Assumptions

As described in the UK Sea Fisheries Statistics Report 2020 (Marine Management Organisation, 2021) multiple factors impact fishing activity and landings tend to fluctuate considerably over time. In 2020, the ongoing COVID-19 pandemic (where effects were felt from March 2020) resulted in considerable impacts on commercial fishing. Like all parts of the UK economy, the pandemic had differential impacts on different sectors of the fishing industry. Overall, shellfish fisheries were hit most severely as shellfish species tend to be landed and sold fresh for use in the hospitality sector and demand from this sector in the UK and abroad dropped dramatically as lockdowns were being imposed across the UK and EU.

A number of limitations have been identified in relation to the fisheries datasets publicly available. These are described in detail in *Table 20.4: Summary of Key Fisheries Data and Information* and include issues associated with the potential for some historic datasets to not be fully representative of current activities, redaction of annual data, and inconsistencies with data categorisation. Additionally, limitations with regards to available spatial data on fisheries is more evident for smaller vessels (under 15 m in length).

To address these issues, consultation with the fisheries stakeholders, including local fishermen, has been undertaken to help inform the baseline characterisation (see *Table 20.3: Summary of Consultation*).

20.6 Baseline Environment

The Study Area supports a range of commercial fisheries activities, with shellfish species being principally targeted. Analysis of landings values (£) indicates that pots and traps¹ are the main fishing activity, predominantly for

¹ Although 'creeling' is more commonly used in Scotland, 'pots and traps' has been used here for consistency with the categorisation of methods within the data sources used.

Nephrops (Figure 20 2: Annual Landings Value (£) By Species (Average 2017 – 2021) (Volume 3 Figures); Figure 20 3: Annual Landings Value (£) By Method (Average 2017 – 2021)(Volume 3: Figures). Edible crab and lobster are also caught via pots and traps within the Study Area, but to a lesser extent. Landings from demersal trawling and dredging for scallops are also recorded in the Study Area. It should be noted, however, that demersal trawling and dredging are prohibited in the upper reaches of Loch Fyne under the Upper Loch Fyne and Loch Goil NCMPA and therefore not carried out in the proximity of the Marine Facility (Figure 20 4: Upper Loch Fyne and Loch Goil Nature Conservation Marine Protected Area) (Volume 3: Figures)).

Razor clams are also landed in the Study Area. Since February 2018, fishing for razor clams is restricted to participants of the ‘Electrofishing for Razor Clams Trial’ being conducted by Marine Scotland. For a trial period, Marine Scotland has issued licences to fish for razor clams via ‘electrofishing’ in certain areas around Scotland for scientific research (Scottish Government, 2022). As shown in Figure 20 5: *Electrofishing for Razor Clams Trial Areas* (Volume 3: Figures)) there are no razor clam trial areas in the immediate vicinity to the Marine Facility.

Landings from other fishing methods are recorded at negligible levels in the Study Area.

It is important to note that the Marine Facility has a small footprint compared to that of the Study Area and that most fishing activity recorded in ICES rectangle 41E4 is undertaken on its western section. Therefore, the overall landings of ICES rectangle 41E4, although useful for context, are not necessarily representative of fishing activity in the waters adjacent to the Marine Facility. To establish baseline fishing activity in the Marine Facility area consultation was undertaken with local fisheries stakeholders, along with analysis of fisheries data of a finer spatial scale.

Landings by port were reviewed to provide a more localised insight into fishing activity of relevance. An overview of the value (£) of landings from ports local to the Marine Facility is provided in Figure 20 7: *Landings (£) by Species in Local Ports (Annual Average 2021 – 2022)* (Marine Management Organisation , 2023) (below) and Figure 20 8: *Landings by Gear in Local Ports (Annual Average 2021 – 2022)* (Marine Management Organisation , 2023) (below).

As shown, *Nephrops* are the greatest contributor to the overall value (£) of landings in ports local to the Marine Facility. Scallops contribute less to landings in local ports compared to the overall ICES landings data for the Study Area. Trawling represents the main fishing activity by value, followed by traps, however, demersal trawl and dredging are prohibited in the upper reaches of Loch Fyne under the Upper Loch Fyne and Loch Goil NCMPA.

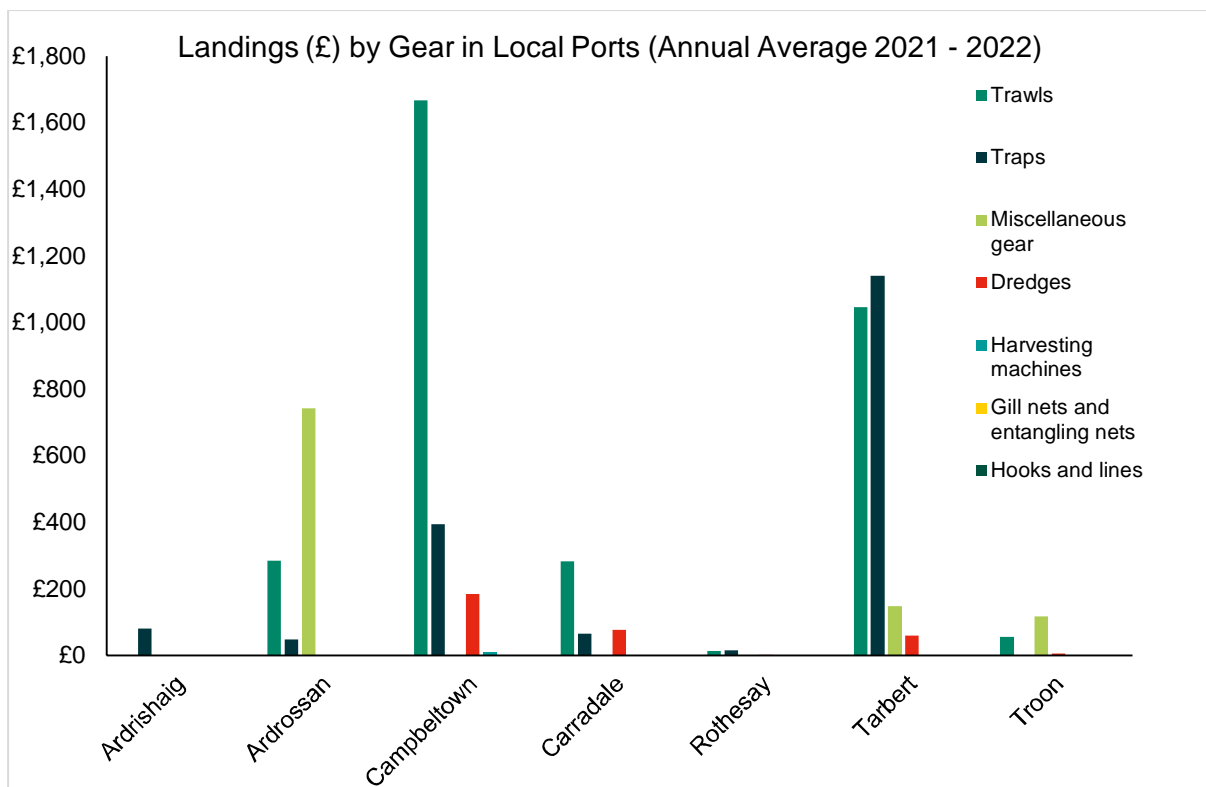


Figure 20-1: Landings (£) by Species in Local Ports (Annual Average 2021 – 2022) (Marine Management Organisation , 2023)

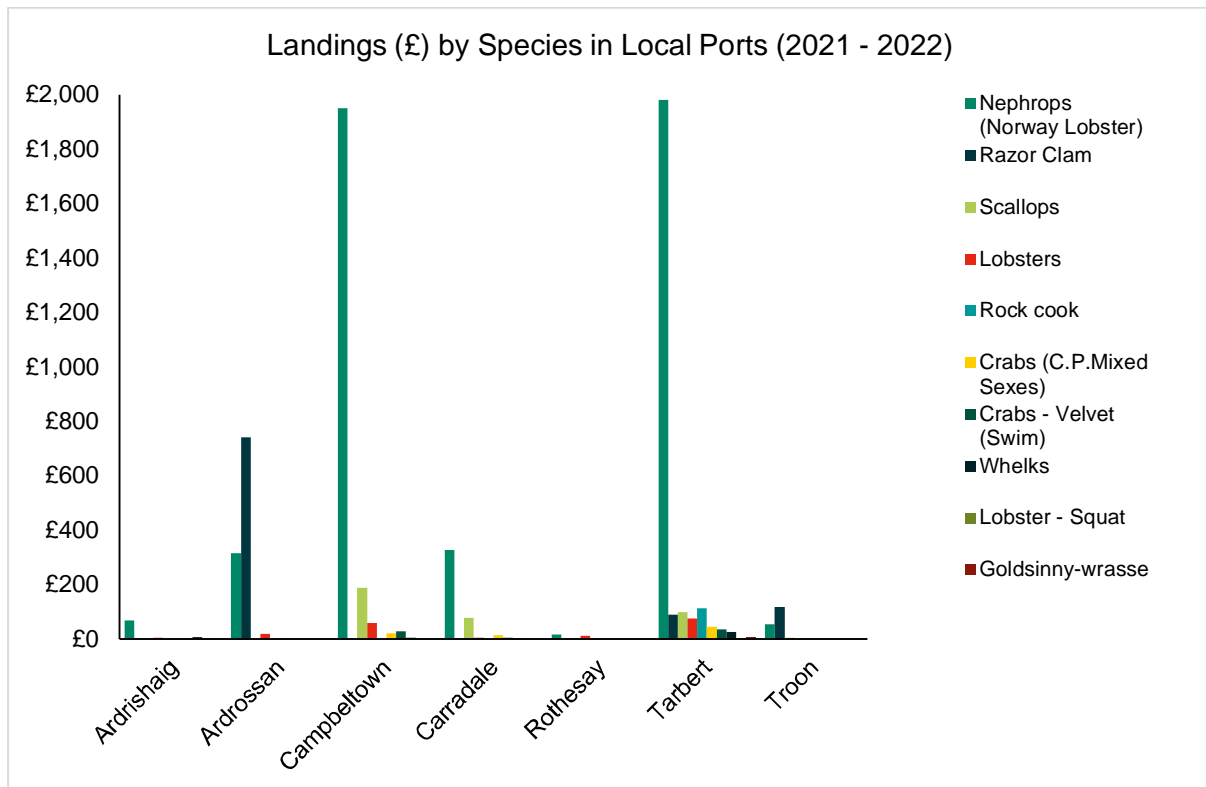


Figure 20-2: Landings by Gear in Local Ports (Annual Average 2021 – 2022) (Marine Management Organisation , 2023)

Although the overall Study Area, and local ports, shows moderate to high landings, there is low fishing activity in the waters adjacent to the Marine Facility. The Scottish fishing vessels under 12 m data shows moderate to high landings value (£) within the Study Area, however, this is restricted to the western side of the ICES rectangle. No data is shown for the upper reaches of Loch Fyne, in waters adjacent to the Marine Facility, as there are less than 5 vessels reportedly working in the area (*Figure 20 9: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) – Dredges; Figure 20 10: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) - Bottom Trawl; Figure 20 11: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) – Pots & Traps; Figure 20 12: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) – Rods & Lines; and Figure 20 13: Scottish Under 12m Vessels – Annual Average Value (£) (2017- 2021) – Other (Volume 3: Figures).*

Limited fishing activity in the upper reaches of the loch is also shown in the ScotMap Inshore Fisheries Mapping data. The ScotMap data shows moderate to high value scallop diving activity to be present in the lower reaches of Loch Fyne (*Figure 20 14: Inshore Fishing – Scallop Divers – Value (£).; Figure 20 15: Inshore Fishing – Scallop Dredging – Value (£); Figure 20 16: Inshore Fishing – Nephrops Pots – Value (£); Figure 20 17: Inshore Fishing – Trawl Excluding Nephrops– Value (£).; Figure 20 18: Inshore Fishing –Nephrops Trawl– Value (£); and Figure 19: Inshore Fishing – Crab & Lobster Pots – Value (£) (Volume 3: Figures).*

Similarly, trawling excluding *Nephrops* is also absent from the upper reaches of the loch (*Figure 20 17: Inshore Fishing – Trawl Excluding Nephrops– Value (£) (Volume 3: Figures)*), while moderate value (£) *nephrops* trawling is present in the upper reaches of the loch (*Figure 20 18: Inshore Fishing –Nephrops Trawl– Value (£))(Volume 3: Figures)*). Although the data shows *nephrops* trawl activity in the upper reaches of the loch, it is important to note that the ScotMap data predates the designation of the Upper Loch Fyne and Loch Goil NCMPA, which prohibits dredging and trawling. The NCMPA was designated under the Marine (Scotland) Act 2010 and came into force August 2014 (*Figure 20-4: Upper Loch Fyne and Loch Goil Nature Conservation Marine Protected Area) (Volume 3: Figures)*).

Nephrops potting is the only fishing activity present in the upper reaches of the loch where the Marine Facility is to be situated (*Figure 20 16: Inshore Fishing – Nephrops Pots – Value (£) (Volume 3: Figures)*). Although not

prohibited in the upper reaches of the loch, potting for crab & lobster is also absent from the waters adjacent to the Marine Facility *Figure 19: Inshore Fishing – Crab & Lobster Pots – Value (£) (Volume 3: Figures)*).

Consultation with fisheries stakeholders reflected the findings of the desk-based study (*Table 20.3: Summary of Consultation*), which indicates that the only activity of relevance to the area of the Marine Facility is potting for *Nephrops*. Stakeholders reported two *Nephrops* potting vessels working in the waters adjacent to the Marine Facility only. No concerns regarding the Marine Facility were raised by any stakeholders during consultation.

20.6.1 Baseline Receptors

The desktop review paired with consultation with local fishers and relevant fisheries stakeholders has identified the receptors listed below in *Table 20.7: Commercial Fisheries Receptors and Sensitivities*.

Table 20.7: Commercial Fisheries Receptors and Sensitivities

Receptor	Sensitivity	Justification
Pots and traps – <i>Nephrops</i>	Medium	Restricted to suitable <i>Nephrops</i> habitat.

Receptors not being considered within this assessment, and the justification for not considering them further, is provided below (*Table 20.8 Commercial Fisheries Receptors not Considered in this Assessment*).

Table 20.8 Commercial Fisheries Receptors not Considered in this Assessment

Receptor	Justification
Trawl – <i>Nephrops</i>	Trawling is banned in the waters adjacent to the Marine Facility under the Upper Loch Fyne and Loch Goil NCMPA.
Dredging – Scallop	Dredging is banned in the waters adjacent to the Marine Facility under the Upper Loch Fyne and Loch Goil NCMPA.
Pots and traps – lobster and crab	No activity reported in waters adjacent to the Marine Facility.
Scallop Diving	No activity in upper reaches of Loch Fyne.
Demersal trawl (excluding <i>nephrops</i>)	Dredging is banned in the waters adjacent to the Marine Facility under the Upper Loch Fyne and Loch Goil NCMPA.
Electrofishing – razor clams	Restricted to trial areas.

20.7 Assessment of Effects

An assessment of the likely significance of effects arising from the Marine Facility on commercial fisheries receptors (*Table 20.7: Commercial Fisheries Receptors and*), *Section 20.5.6* above, caused by each identified impact (Assessment Scope section) is presented below.

20.7.1 Construction

Temporary loss or restricted access to commercial fishing grounds due to movement of vessels involved in construction

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. Construction of the Marine Facility is anticipated to take 12 months, and will involve the installation of a prefabricated (likely steel) deck structure and approximately 72 steel piles by 10 vessels.

Given the limited vessel movements expected associated with the construction of the Marine Facility magnitude of the impact is expected to be negligible.

Significance of the Effect

Overall, as the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Displacement of commercial fishing activities

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. Construction of the Marine Facility is anticipated to take 12 months, and result in a loss of access to an area of approximately 1,800 m².

Due to the small spatial footprint, and temporary nature, of the Marine Facility the magnitude of the impact is considered to be negligible.

Significance of the Effect

Overall, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Obstruction of navigation / steaming routes to commercial fishing grounds

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. Construction of the Marine Facility is anticipated to take 12 months and will involve 10 vessels. During this time installation works could potentially result in navigation/steaming routes to commercial fishing grounds being temporarily obstructed.

Given the short term, temporary, and localised nature of the works, and the limited commercial fisheries activity within the upper reaches of Loch Fyne under the Upper Loch Fyne and Loch Goil NCMPA, the magnitude of the impact is considered to be negligible.

Significance of the Effect

Overall, the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Indirect effects on commercial fisheries as a result of impacts on the ecology of commercial fish and shellfish species

The likely significant effects of the construction of the Marine Facility on marine ecology, including fish and shellfish species of commercial importance, are assessed in Chapter 08: Marine Ecology and are not expected to exceed minor adverse significance and are therefore considered not significant in EIA terms. Consequently, any impacts associated with this on the commercial fisheries that target them are also not expected to exceed minor adverse significance and are therefore considered not significant.

20.7.2 Operational Phase

Long-term loss or restricted access to commercial fishing grounds due to the placement of the Marine Facility

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. The deck of the Marine Facility will be temporary and it is expected to be installed for up to seven years to accommodate up to ten deliveries. At the end of the construction phase of the Development, the piles will remain *in situ* to allow for the deck to be reinstated to facilitate maintenance and repairs to the Development should they be required during its anticipated 100 year operational life. The dimensions of the proposed Marine Facility are to be circa 180 m long and 10 m wide, resulting in a loss of access to an area of approximately 1,800 m², with 72 x 600 mm diameter steel piles at 5 m spacing.

Given the very localised footprint of the Marine Facility the magnitude of the impact is considered to be negligible.

Significance of the Effect

Overall, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Long-term displacement of commercial fishing activities

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. The Marine Facility will be temporary and is expected to be installed for up to seven years to accommodate up to ten deliveries. At the end of the construction phase of the Development, the piles will remain *in situ* to allow for the deck to be reinstated to facilitate maintenance and repairs to the Development should they be required during its anticipated 100 year operational life. The dimensions of the Marine Facility is proposed to be circa 180 m long and 10 m wide with paired 600 mm diameter steel piles at 5 m spacing, which would result in a loss of access to an area of approximately 1,800 m². The Marine Facility could potentially displace fishing activities due by obstructing access to fishing grounds.

Given the very localised footprint of the Marine Facility the magnitude of the impact is considered to be negligible.

Significance of the Effect

Overall, the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Obstruction of navigation / steaming routes to commercial fishing grounds

Magnitude of impact

The design of the Marine Facility is outlined in *Chapter 2: Project and Site Description*. The Marine Facility will be temporary and is expected to be installed for up to seven years to accommodate up to ten deliveries. At the end of the construction phase of the Development, the piles will remain *in situ* to allow for the deck to be reinstated to facilitate maintenance and repairs to the Development should they be required during its anticipated 100 year operational life. The dimensions of the Marine Facility is proposed to be circa 180 m long and 10 m wide with paired 600 mm diameter steel piles at 5 m spacing, which would result in a loss of access to an area of approximately 1,800 m². The Marine Facility could potentially result in navigation/steaming routes to commercial fishing grounds being obstructed.

Given the very localised footprint of the piles the magnitude of the impact is considered to be negligible.

Significance of the Effect

Overall, as the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium (*Table 20.7: Commercial Fisheries Receptors and Sensitivities*). The effect will, therefore, be of **negligible adverse significance**, which is not significant in EIA terms.

Indirect effects on commercial fisheries as a result of impacts on the ecology of fish and shellfish species

Magnitude of impact

The likely significant effects of the construction of the Marine Facility on marine ecology, including fish and shellfish species of commercial importance, are assessed in *Chapter 08: Marine Ecology* and are not expected to exceed minor adverse significance and are therefore considered not significant in EIA terms. Consequently, any impacts associated with this on the commercial fisheries that target them are also not expected to exceed minor adverse significance and are therefore considered not significant.

20.8 Cumulative Effects

At the time of writing, there are no other projects or activities planned that could have an impact on the commercial fisheries receptors identified as requiring an assessment in relation to the Marine Facility. Therefore cumulative effects to commercial fisheries receptors are predicted to be negligible and not significant..

20.9 Mitigation and Monitoring

The likely effects of the Marine Facility on commercial fisheries receptors are not significant in EIA terms. As such, specific mitigation and monitoring in relation to commercial fisheries is not considered necessary and all effects remain as **negligible adverse significance**.

20.10 References

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