Falcarragh Marine Modelling Study

Assessment of Impacts of the Maritime Usage

December 2024

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Mott MacDonald
[redacted]
T +[redacted]
mottmac.com

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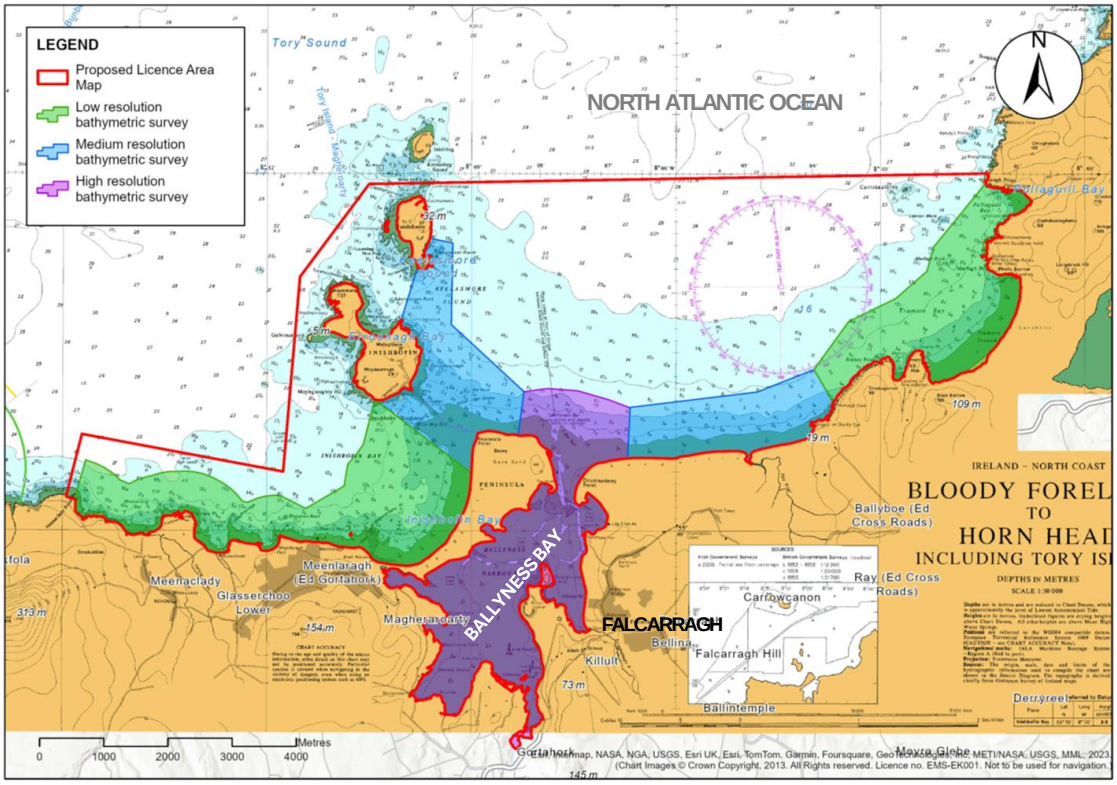
1 Introduction

1.1 Project Overview

Uisce Éireann (“the Applicant”) is seeking a maritime usage licence to conduct marine surveying within Ballyness Bay and the North Atlantic Ocean, Falcarragh, County Donegal. Mott MacDonald Ireland Limited have been appointed by Uisce Éireann to prepare this report to assess the impacts (positive or negative) of all the potential impacts related to the proposed maritime usage - marine surveying. The extent of the licence area is illustrated in Figure 1.1.

Figure 1.1: Licence area boundary and bathymetry survey area



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1.2 Project Need

The proposed marine surveying is required as part of data collection to provide quantitative inputs for a hydrodynamic model which is required to profile Ballyness Bay and North Atlantic Ocean to aid the selection of a new discharge outfall for a proposed wastewater treatment plant for the settlement of Falcarragh. Wastewater collected from the agglomeration of Falcarragh is currently untreated, and the existing wastewater treatment plant is non-compliant with its Waste Water Discharge Authorisation (WWDA) licence. The principal objective of the marine surveys is to help ensure robust assessments can be completed for the design of a new wastewater treatment plant which provides treated discharges in compliance with the Urban Waste Water Treatment Directive and with the conditions set in the extant WWDA licence.

1.3 Description of Marine Modelling Study

The proposed marine modelling will take place within Ballyness Bay and the North Atlantic Ocean, Falcarragh Co. Donegal, the boundary for the maritime usage licence is illustrated in Figure 1.1 and the locations of the survey instrumentation is detailed in Figure 1.2. The marine surveys will comprise of the following:

- Installation of 1no. weather stations to aid validation of data
- Installation of 5no. tidal gauges
- Installation of 4no. current meters with vertical profiles and conductivity, temperature, and depth (CTD) device
- Installation of 3no. river flow and stage gauges
- Deployment of a drone to conduct a Light Detection and Ranging (LiDAR) survey to establish bathymetry of the licence area
- Deployment of Multi Beam Echo Sounder (MBES) to complement the LiDAR dataset
- Deployment of an ARCBoat or installation of pontoons mounted to a Buoys which will be temporarily anchored to aid water sample collection
- Deployment of drone and hydro-drone to conduct dye and microbial tracing survey to understand dispersion pattern of effluent and to aid conceptual model calibration and verification processes under different conditions
- Water quality sampling within the bay and rivers
- Maintenance of the tidal and flow gauges, and 1no. meteorological station
- Decommissioning/removal of all surveying equipment at the end of the survey period.

Figure 1.2: Locations of survey instrumentation

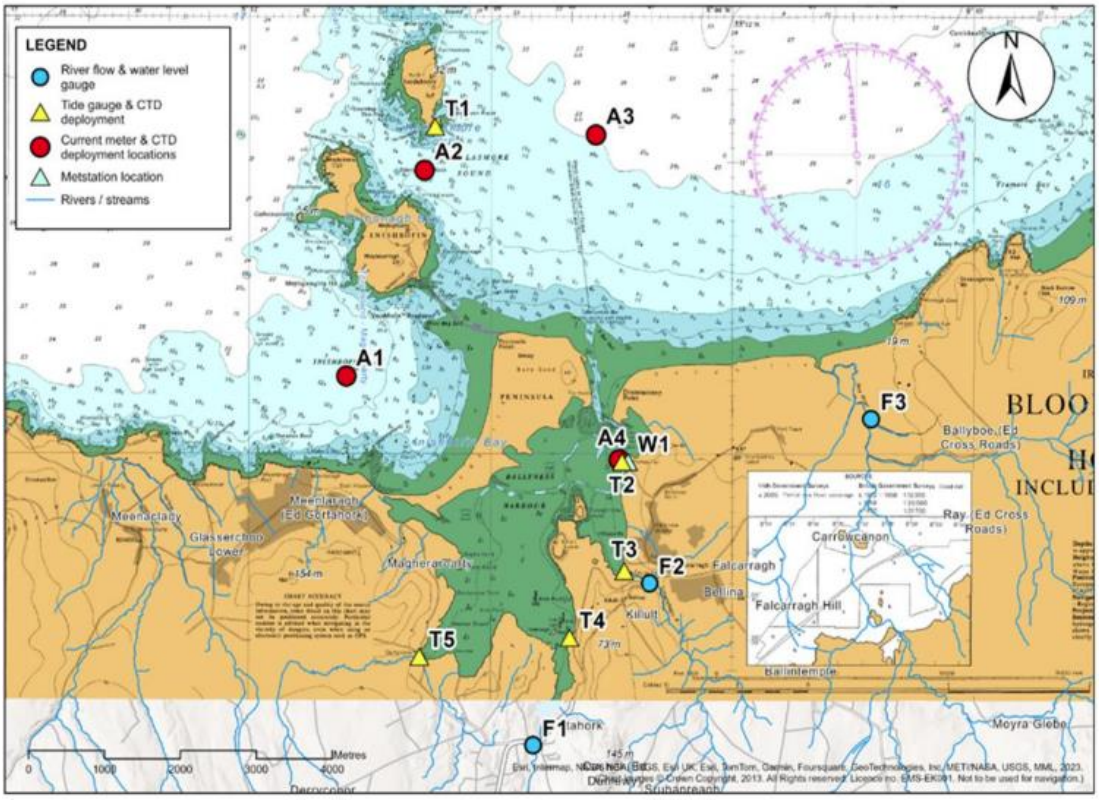

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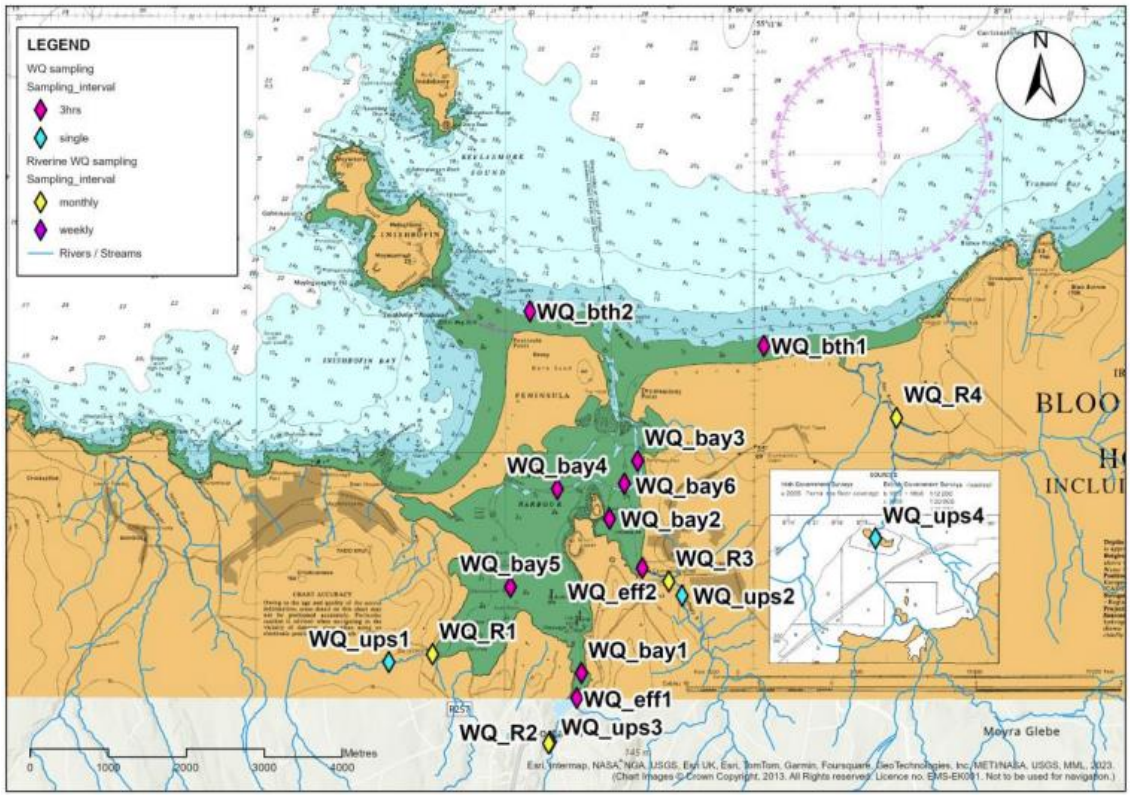
Figure 1.3: Water sampling locations



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The marine surveys are not seasonally constrained, as spring and neap tides occur bi-monthly. The current gauge, tide meter and CTDs (conductivity, temperature, depth profiler) will be deployed for a minimum period of 35 days (up to 12 weeks dependent upon weather conditions) to cover spring and neap tides. The marine survey equipment is either drone operated, or comprises floating instrumentation deployed from a boat.

The only land-based survey equipment will be the meteorological stations; these stations do not require any works to facilitate their placement on land as they are self-contained and preassembled units and will be temporarily fixed/staked to the ground. The river gauges will be staked to the riverbed for a 12-month period and will record river flow levels continuously for a period of 12 months. The programme for collecting data on meteorological conditions, river and tidal levels and water quality will take place for a period of 12 months.

The licence is sought for a period of five years to enables works to be scheduled and completed in favourable weather conditions. The commencement of the surveying will be dependent upon the issuing of the maritime usage licence.

There are no other activities proposed or required to facilitate the surveys required, apart from those described in Table 1.1. Following the completion of surveys, all survey equipment will be removed.

Table 1.1: Survey Details

Survey Instrument	Location as identified in Figure 1.2	Description of Survey and survey equipment
Meteorological Station	W1	To aid the validation of data gathered in this survey, the meteorological station is proposed to be installed and operational prior to commencement of all surveys. This will remain operational until the recovery of all surveying equipment. The proposed location for the meteorological survey station is on land.
Tide Gauge data	T1 to T5	Five tidal gauges are proposed. The tidal gauges will be installed prior to any hydrodynamic and water quality monitoring and will not be removed until completion of all other water-based surveys.
River Flow and Stage data / River water quality sampling	F1 to F3	Three flow gauges are proposed. The flow gauges will be installed prior to any hydrodynamic and water quality monitoring and will not be removed until completion of all other water-based surveys. River water quality sampling will also take place at each of these locations, one sample will be taken each week for a total 52 weeks (continuous).
Bathymetric data	Completed by a drone	A Light Detection and Ranging (LiDAR) survey, covering shallow (<5m depth) areas during low tides, will be carried out to fill the bathymetry data gaps, as detailed in Figure 1.1. The LIDAR survey will be completed by a remotely controlled/un-manned drone, there will be no impact on land or water habitat.
Current/velocity data	A1 to A4	There is no current/velocity data available. Current monitoring will be undertaken using bed mounted current meters to provide the necessary dataset for model calibration and verification purposes.
Temperature and salinity data	A1 to A4	To aid model calibration and verification, both salinity data and temperature data has been recommended to be collected to inform the decision-making process and to improve model robustness. Near-bed Temperature and Salinity sensors will be included in bed-mounted current meter deployment which will be correctly positioned and anchored from a boat. This may be supplemented by boat access to maintain the sensor during the survey period.
Water quality data of coastal waters	Mounted buoys or remote-controlled boat access	There is limited water quality sampling data available adjacent to the outfall of the existing WWTP at Falcarragh. To establish the baseline conditions, additional sampling will be necessary. Water quality sampling is recommended within Ballyness Bay, as well as at the tidal limits of contributing rivers. Sampling will be undertaken using pontoons preferably (e.g., sampling equipment mounted on Buoys), or via a remotely controlled boat access (ARCBoat). An automatic sampler may be deployed to collect water samples, or samples may be taken manually depending on available access. A total of 14 water quality sample locations will be undertaken within the licence boundary.
Dye and microbial tracing	Deployed from a boat	Tracing data is valuable to understand the dispersion pattern of effluent and to aid conceptual model calibration and verification processes under different conditions (e.g., with and without wind). The tracer will be dispersed from a boat and drone surveys will be conducted in parallel with the dye releases to monitor the progression of the dye plume. A hydro-drone will also be deployed with a mounted GPS system to monitor the concentration of the dye plume in-situ and its development and variation over time. A total of 4no. surveys will be conducted each for a duration of 13 hours under different tide/wind scenarios: 1. Spring tide & low/no wind conditions 2. Neap tide & low/no wind conditions 3. Spring tide & high wind conditions 4. Neap tide & high wind conditions

1.4 Alternatives

There is no alternative to the marine surveying as actual data to contextualise the tidal and water quality characteristics of Ballyness Bay is required for the hydrodynamic model and assimilative capacity calculations. The survey data is required to make a technical assessment for the selection of a new outfall and must be undertaken.

2 Legislative Review

2.1 Introduction

This chapter provides a review of relevant legislation related to the protection of coastal waters against the proposed maritime usage.

2.2 EIA Directive

In support of the maritime licence usage application a screening for environmental impact assessment (EIA) report was prepared and is provided in Appendix A. It concluded that the project types listed in Annex I and II of the Directive (2011/92/EU) as amended by Directive 2014/52/EU (together, the “EIA Directive”) do not describe the proposed survey activities and does not share the characteristics of any project listed in Annex I or II. The EIA Directive is therefore not applicable to the proposed surveying activities and there is no requirement for an EIAR to be completed.

2.3 Water Framework Directive

The EU Water Framework Directive (2000/60/EC) requires all Member States to protect and improve water quality in all waters so that we achieve good ecological status by 2027 at the latest. It applies to rivers, lakes, groundwater, and transitional coastal waters. The marine surveys are being undertaken with a coastal waterbodies only – Ballyness Bay and Northwestern Atlantic Seaboard (there are no transitional waters surrounding Falcarragh). There are river level/flow meters proposed in three surface water bodies (namely Glenna, Tullaghobegly and Ray rivers), however this will have no impact on water quality and therefore there is no impediment to achieving the objectives of the Water Framework Directive.

2.4 Marine Strategy Framework Directive

The EU Marine Strategy Framework Directive (MSFD) was put in place to protect the marine ecosystem and biodiversity upon which our health and marine-related economic and social activities depend. It seeks to achieve a clean, healthy, biologically diverse and sustainably used marine environment, referred to as good environmental status within the MSFD. Pursuant to Article 5 of the MSFD, Ireland has prepared a Marine Strategy including Programme of Measures (revised in 2022) to manage pressures on the marine environment.

The marine surveys and associated technical equipment are non-invasive, silent, small in scale and will be deployed on a temporary basis. The proposed surveys are temporary in nature and will not result in any adverse or significant effects that would result in impact good environmental status or its achievement. The proposed survey equipment will be removed upon concluding of the surveying activities. These types of surveys are untaken on a regular based within Irish coastal waters and therefore any risks are predictable. There are no mitigation measures required as the environmental effects are considered to be negligible. In conclusion, there are no negative environmental impacts from the proposed survey activities and no impact on the achievement of good environmental status for the local marine environment (licence area and adjoining marine areas).

2.5 Planning and development context

The proposed maritime usage – marine surveys, are exempt from the required for development consent (planning approval) under Section 4 paragraph 4(1A)(f) of the Planning and Development Act 2000 (as amended) -

"4(1A)(f) activities that are the subject of, or require, a licence under Part 5 of the Maritime Area Planning Act 2021".

The Maritime Area Planning Act 2021 (as amended*)* highlights that "exempted usage" shall be construed in accordance with Section 114; *"Schedule 7 usage" means a maritime usage specified in Schedule 7"*, with Section 114 providing (inter alia) that: *"(2) Notwithstanding any regulations made under subsection (1) but subject to subsection (3), any particular Schedule 7 usage shall not be exempted usage if an appropriate assessment or environmental impact assessment of the usage is required".*

As stated in Section 2.2 above the proposed maritime usage subject to this licence application does not require an EIA. A Supporting Information for Screening for Appropriate Assessment has been prepared and has concluded that a Stage 2 Appropriate Assessment (Natura Impact Assessment) is not required to be prepared and the that the proposed maritime usage does not pose a risk of significantly affecting (either directly or indirectly) any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

In conclusion, the proposed maritime usage does not require development [planning] consent.

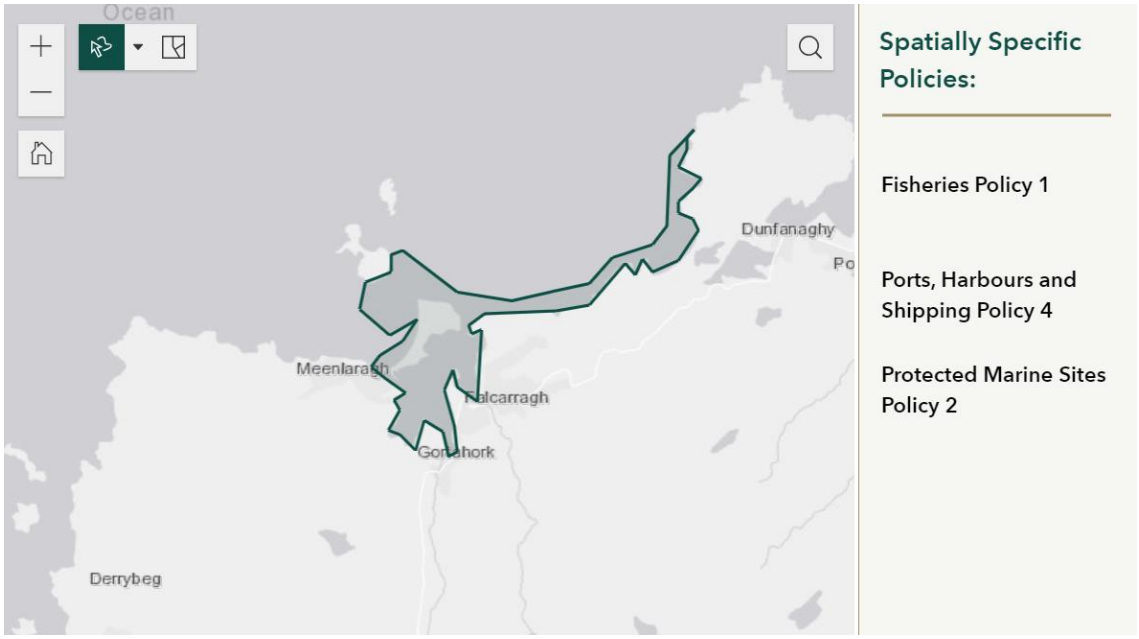
3 Statement of Consistency

3.1 Introduction

The NMPF has a number of overarching marine planning policies (OMPPs) which are applicable to "*all proposals capable of having impacts in the maritime area*". The OMPPs apply to particular classes of activities and the NMPF arranges these into 16No. general sectors, grouped into three categories - environmental, social and economic. The OMPPs are supplemented with sectoral marine planning policies (SMPPs). All proposals are required to consider which SMPPs are applicable and demonstrate compliance where relevant, along with the OMPPs.

The NMPF includes interactive reference maps for various activities and interests in Ireland's offshore area, which can be found at https://www.marineplan.ie/. The marine plan webtool assists in identifying spatially specific polices, as well as those which are more general NMPF plan area policies. The interactive policies map (see Figure 3.1) was used in conjunction with the NMPF to identify and confirm the relevant marine planning policies which apply to the proposed marine surveying. Figure 3.1 shows the indicative area relating to the proposed marine modelling activities and the spatially specific policies as identified by the policies map. The spatially specific policies are dealt with in Section 3.2, while Section 3.3 addresses consistency with sectoral policies of relevance.

Figure 3.1: NMPF Policies Map



Source: https://www.marineplan.ie/

3.2 Spatially Specific Policies

3.2.1 Protected Marine Sites Policy

The proposed marine surveying will be undertaken within Ballyness Bay which is designated as a Special Area of Conservation (SAC) (site code: 001090). The survey area will also encroach on the boundary for Inishbofin, Inishdooey and Inishbeg Special Protection Area (SPA) (site

code: 004083). As such, the OMPPs to protect marine sites such as the SPA and SAC are relevant to the proposed survey activities. There are a total of four Protected Marine Sites policies, although it is noted in Figure 2.1 that only Policy 2 is listed for the spatial extent of the survey area; however, the remaining three are also addressed herein.

Protected Marine Sites Policy 1
Proposals must demonstrate that they can be implemented without adverse effects on the integrity of Special Areas of Conservation (SACs) or Special Protection Areas (SPAs). Where adverse effects from proposals remain following mitigation, in line with Habitats Directive Article 6(3), consent for the proposals cannot be granted unless the prerequisites set by Article 6(4) are met.

Protected Marine Sites Policy 2
Proposals supporting the objectives of protected marine sites should be supported and:

be informed by appropriate guidance

must demonstrate that they are in accordance with legal requirements, including statutory advice provided by authorities relevant to protected marine sites

Protected Marine Sites Policy 3
Proposals that enhance a protected marine site's ability to adapt to climate change, enhancing the resilience of the protected site, should be supported and:

be informed by appropriate guidance

must demonstrate that they are in accordance with legal requirements, including statutory advice provided by authorities relevant to protected marine sites

Protected Marine Sites Policy 4
Until the ecological coherence of the network of protected marine sites is examined and understood, proposals should identify, by review of best available evidence (including consultation with the competent authority with responsibility for designating such areas as required), the features, under consideration at the time the application is made, that may be required to develop and further establish the network. Based upon identified features that may be required to develop and further establish the network, proposals should demonstrate that they will, in order of preference, and in accordance with legal requirements:

a. avoid,
b. minimise, or
c. mitigate significant impacts on features that may be required to develop and further establish the network, or
d. if it is not possible to mitigate significant impacts, proposals should set out the reasons for proceeding.

Policy Response

The proposed survey activities have been assessed under Article 6(3) obligations under the Habitats Directive. The assessment is provided in the Supporting Information for Screening of Appropriate Assessment report which accompanies the maritime usage licence application. This report is in accordance with Protected Marine Sites Policy 1 and 4. The assessment concluded that the proposed survey activities do not pose a risk of significantly affecting (either directly or indirectly) any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

The proposed surveys support the objectives of protected marine sites as they will not result in any changes to, or impediment of, the conservation objectives for Ballyness Bay SAC or Inishbofin, Inishdooey and Inishbeg SPA, which is in accordance with Policy 2. Correspondingly,

the proposed surveys will facilitate the preparation of dispersion modelling for a new outfall as part of the upgrading of Falcarragh WWTP which will ensure that the best location for the proposed WWTP outfall will be chosen to avoid adverse effects to the SAC.

The proposed surveys are in and of themselves will not impact either the SPA or SAC as the survey equipment is non-intrusive and to be deployed for a limited period (minimum period of 35 days, the two meteorological stations and tide gauges will be place for a minimum of 12 months) and will be removed at the end of the survey period.

The Supporting Information for Screening of Appropriate Assessment report addresses the use of current meters which will be bed-mounted, these are the only items of survey equipment which are deemed to have a potential impact to a European Site due to the disturbance to benthic habitats. Notwithstanding, there is no identified pathway between the proposed project impact sources and the qualifying interests of Ballyness Bay SAC, Inishbofin, Inishdooey and Inishbeg SPA or any other European Sites. The proposed survey activities therefore avoid any significant impacts to European Sites in accordance with Policy 1, 2, and 4.

In relation to Protected Marine Sites Policy 3, the proposed surveys are not a type of 'project' or activities which would provide, or be required to provide, climate change adaptability or resilience. As such Protected Marine Sites Policy 3 is not applicable to the proposed surveying.

As indicated above, the proposed surveys are compliant and consistent with the Protected Marine Site Policies of the NMPF.

3.2.2 Fisheries Policy

Fisheries Policy 1

Proposals that may have significant adverse impacts on access for existing fishing activities, must demonstrate that they will, in order of preference:

a. avoid,
b. minimise, or
c. mitigate such impacts.
d. If it is not possible to mitigate significant adverse impacts on fishing activity, the public benefits for proceeding with the proposal that outweigh the significant adverse impacts on existing fishing activity must be demonstrated.

Policy Response

The NMPF supports management of sea-fisheries resources consistent with relevant environmental sustainability considerations and the development of the sector's economic and social contribution to rural and coastal communities.

The proposed marine surveys and deployment of associated survey equipment will not inhibit access related to fisheries activities. The duration of the survey equipment being in place in Ballyness Bay/North is also limited in its duration (survey duration is approximately 35 days, the meteorological station and tidal gauges will be in place for 12 months). There are no adverse significant effects on access for existing fishing activities and therefore no avoidance, minimisation or mitigation techniques are required.

3.2.3 Aquaculture Policy 2

Non-aquaculture proposals in aquaculture production areas must demonstrate consideration of, and compatibility with, aquaculture production. Where compatibility is not possible, proposals must demonstrate that they will, in order of preference:

a. avoid;

b. minimise;
c. mitigate significant adverse impacts on aquaculture.
d. If it is not possible to mitigate significant adverse impacts upon aquaculture, proposals should set out the reasons for proceeding.

Policy Response

There are several aquaculture licenced sites within Ballyness Bay, related to the farming of Pacific Oyster and Manila Clam, which were granted in May 2024 by the Aquaculture Licences Appeals Board, previously held aquaculture licences for the Bay lapsed in 1999. Ballyness Bay is currently not a Designated Shellfish Area nor a Classified Bivalve Mollusc Production Area.

The proposed future upgrading/replacement of Falcarragh WWTP will ensure that water quality is maintained within the thresholds of Article 5 of Directive 2006/113/EC [quality required for shellfish waters], with faecal coliforms and E.Coli the key parameters of concern for shellfish production areas. The proposed surveys are important in identifying any new future discharge outfall for the upgraded WWTP and thus also towards ensuring that there is no impact on the water quality for licenced aquaculture sites. The surveys include a dye trace survey; however, the time limited and dispersive nature of this survey will not impact the shellfish production areas within Ballyness Bay.

The proposed surveys are therefore compliant and consistent with Aquaculture Policy 2 in relation to the minimisation of impacts to aquaculture production sites.

3.2.4 Ports, Harbours and Shipping Policy 4

Proposals within ports limits, beside or in the vicinity of ports, and / or that impact upon the main routes of significance to a port, must demonstrate within applications that they have:

- been informed by consultation at pre-application stage or earlier with the relevant port authority;
- have carried out a navigational risk assessment including an analysis of maritime traffic in the area; and
- have consulted Department of Transport, MSO and Commissioners of Irish Lights.

Applicants must continue to engage parties identified in pre-application processes as appropriate during the decision-making process.

Policy Response

There is one piece of survey equipment in close proximity to the mapped Tory Island and Inishbofin ferry route from Magheroarty Pier – current meter unit A1. However, it's deployment will not result in any significant impact to the ferry route, consultation with the ferry company will be undertaken to ensure that a survey result can be undertaken without impact on the route. The proposed surveys are therefore compliant with Policy 4 above.

3.2.5 Water Quality Policy

The NMPF includes two water quality policies which are relevant to the proposed survey activities and which are highlighted below.

Water Quality Policy 1
Proposals that may have significant adverse impacts upon water quality, including upon habitats and species beneficial to water quality, must demonstrate that they will, in order of preference and in accordance with legal requirements:

a. Avoid,

b. Minimise, or
c. Mitigate significant adverse impact

Water Quality Policy 2
Proposals delivering improvements to water quality, or enhancing habitats and species, which can be of benefit to water quality, should be supported.

Policy Response

The proposed survey activities will collect water quality data to determine the existing water quality in Ballyness Bay, as well as in relation to the main rivers which flow into the Bay. These surveys will assist in establishing the assimilative capacity of the Bay and how best to achieve compliance consistent with the Water Framework Directive for discharge from the proposed upgrade to Falcarragh WWTP.

The proposed surveys do not result in any significant adverse impacts upon water quality. The proposed surveys are an important step in the characterisation of the existing water quality in Ballyness Bay. The proposed upgrade/replacement of Falcarragh WWTP will remove the untreated discharge to the Bay under the current operating regime to assist in ensuring that the objectives of the Water Framework Directive continue to be met for Ballyness Bay.

The proposed surveys are compliant and consistent with the NMPF water quality policies and given the objectives and reasons for the proposed marine surveying, should, in accordance with Water Quality Policy 2, be supported, as they will assist in delivering improvements to the water quality of Ballyness Bay, and consequently also the general enhancement of Ballyness Bay habitats and species.

3.3 Consistency with Sectoral Policies

The NMPF lists several sectoral policies for specific marine activities, 'Wastewater Treatment and Disposal' is applicable to the proposed survey activities, as the proposed surveys will be used to inform the design of an upgrade to Falcarragh WWTP to resolve the existing scenario where untreated discharges are being released to Ballyness Bay. The objectives and policies are reproduced below.

3.3.1 Wastewater Treatment and Disposal Policy

Objectives

To bring and maintain public water and wastewater services to acceptable international benchmarks, verified by independent monitoring and reporting, through increased wastewater treatment based on best available techniques, with a focus on, inter alia, ensuring full compliance with the Urban Waste Water Treatment Directive and wastewater licensing requirements.

To support communities and sustainable development in coastal areas through the provision of resilient water services, now and into the future.

Wastewater Treatment and Disposal Policy 1
Proposals by Irish Water related to the treatment and disposal of wastewater that:

i) service the social and economic development of the country under the National Planning Framework;

ii) resolve environmental issues at priority areas identified by the EPA;

iii) contribute to the realisation of the objectives of:

Ireland's River Basin Management Plan 2018 - 2021

The Water Services Policy Statement 2018 - 2025

Marine Strategy Framework Directive 2012 - 2020

should be supported, provided they fully meet the environmental safeguards contained within relevant authorisation processes.

Wastewater Treatment and Disposal Policy 2

Proposals that have the potential to significantly adversely affect existing and planned wastewater management and treatment infrastructure where a consent or authorisation or lease has been granted or formally applied for by Irish Water should not be authorised unless:

compatibility with the existing, authorised, proposed or otherwise identified in consultations with Irish Water activity, can be satisfactorily demonstrated;

the proposal is clearly of strategic or national importance.

Where possible, proposals that may affect Irish Water activities or plans should engage with Irish Water at the earliest available opportunity. Compatibility should be achieved, in order of preference, through:

a. avoiding adverse impacts on those activities; and / or
b. minimising impacts where they cannot be avoided; and / or
c. mitigating impacts where they cannot be minimised.

Policy Response

As has been previously stated above, the proposed surveys are required to characterise the hydrographic conditions and water quality of Ballyness Bay to help inform decisions on the upgrade of Falcarragh WWTP, including the location of a new outfall. The proposed upgrades to the WWTP will address Schedule C: Specified Improvement Programme within the Wastewater Discharge Licence for Falcarragh WWTP (Licence Register No: D0343-01), requiring increased organic and hydraulic treatment capacity. The proposed surveys are directly linked to providing improved water quality within the Bay and ensuring that the economic and social development of Falcarragh is not impeded. The proposed surveys thus demonstrate compliance and consistency with sectoral policies for wastewater treatment and disposal.

3.4 Conclusion

This chapter describes the compliance and consistency of the proposed surveys for the proposed new wastewater treatment plant for Falcarragh, against the requirements of the National Marine Planning Framework.

The above statements of consistency collectively conclude that the proposed surveys are fully compliant and consistent with both the overarching marine planning policies and sectoral marine planning policies and objectives of the National Marine Planning Framework.

4 Assessment of Impacts

4.1 Introduction

This chapter provides an assessment of the relevant environmental topics, which are listed within the Applicant Technical Guidance Note issued by Maritime Area Regulatory Authority[1], to understand what impacts, if any, will occur as a result of the proposed maritime usage.

4.2 Land & Soils

The spatial extent of all bed mounted survey equipment required for the survey activities is minimal. There will be no greater impact than typical anchoring activities undertaken in the Bay as there will be no deployment of intrusive survey equipment and no penetration below the sand/mud substrates. The ADCPs will use a sinker weight and be deployed from a boat; tidal gauges will be affixed to piers and the remainder will be deployed or controlled from boats, or remotely controlled/un-manned drones. The survey activities are temporary in duration and as such there is no negative or adverse impact on the sand and mud substrates within the licence area.

4.3 Water

The dye to be utilised in the microbial dye tracing survey, Rhodamine WT, has be chosen due to its low environmental impact. The dye tracing survey will be carried out with dye concentrations below the maximum allowable concentration of >910ug/l, as stated in Section 6.2 of the Supporting Information for the Screening for Appropriate Assessment report (SISAA). The use of the stated concentrations, or below, does not have any significant effects on fish, crustaceans or algae. Similarly, there is no significant impact to humans or marine mammals upon use o f the prescribed concentrations. There are thus no adverse water quality impacts predicted as a result of the survey activities.

4.4 Biodiversity

The proposed licence boundary overlaps with Ballyness Bay Special Area of Conservation (SAC) (site code: 001090) and the metrological station will occur within the boundary of Falcarragh to Meenlaragh Special Protection Area (SPA) (site code: 004149). There are no National Heritage Areas (NHA) within the proposed survey area, however, the boundary of Ballyness Bay SAC is predominately shared with the boundary of the proposed NHA – Ballyness Bay. There are no RAMSAR sites which overlap with the proposed licence boundary.

A Supporting Information for the Screening for Appropriate Assessment (SISAA) report has been prepared for the licence application. The SISAA report findings and assessment outcomes are detailed herein. The assessment identifies two SPA's and two SAC's located in the Zone of Influence of the licence boundary, these being,

- Falcarragh to Meenlaragh SPA (site code: 004149)
- Inishbofin, Inishdooey and Inishbeg SPA (site code: 004083)
- Ballyness Bay SAC (site code: 001090)
- Horn Head and Rinclevan SAC (site code: 000147)

[1] https://www.maritimeregulator.ie/wp-content/uploads/2024/02/2024-02-29-Technical-Guidance-V5-1.pdf

The sources of potential impacts from the deployment or operation of the marine survey equipment can be categorised into three main groupings;

- physical disturbance to Annex I benthic subtidal communities / Annex I coastal habitats
- physical disturbance to marine mammal species
- noise disturbance from current or MBES operation to marine mammal species

The physical disturbance to marine benthic communities / coastal habitats results from the deployment of bed-mounted current meters or tide gauges. There is one current meter located within the Ballyness Bay SAC – A4, which overlap with a qualifying interest (QI) of the SAC – mudflats and sandflats not covered by seawater at low tide [1140] which supports benthic communities – namely coarse sediment to sandy mud with oligochaetes and polychaetes community complex and mobile sand community complex. Tidal gauges T2 to T5 are located within Ballyness Bay SAC.

The assessment concluded that the small spatial extent occupied by the current meters poses no effects are likely to occur to the coastal habitat or QIs of the SACs within which they are located. An individual current meter will temporarily occupy, at most, an area of 2sqm, which is diminutive in size when considered against the spatial extent of the QI ‘estuaries’ which measures a total area of 15.9 hectares, while the QI ‘mudflats and sandflats not covered by seawater at low tide’ covers an area of 691.8 hectares. Similarly, no effect is likely to occur as a result of the deployment or operation of the tide gauges, meteorological station or other survey equipment, as they will not disrupt a sensitive coastal habitat or QI of the SACs in which they will be located.

The physical disturbance of Annex II species has been identified to potentially occur via collision risk from tide gauges, pontoons, deployment vessel, hydro-drone, ARCBoat or MBES equipment. Microbial dye tracing was also identified as a potential impact mechanism resulting in physical disturbance. Due to the highly mobile nature of marine mammals, the risk of collision from any type of survey equipment was assessed as not significant, due to their relatively small size, or in the case of hydro-drone, deployment vessel, ARCBoat and MBES, also their relatively slow speed and infrequent deployment.

As stated in Section 4.3 above, the use of the fluorescent dye during the dye tracing survey, at the prescribed concentrations, will not result in any significant effects.

The risk to avifauna was identified through the potential for collision risk from aerial drone activity. However, due to the temporary nature and overall short flight duration of aerial drones, it was concluded that there are no significant effects to bird species which are listed as special conservation interests of Falcarragh to Meenlaragh SPA, or Inishbofin, Inishdooey and Inishbeg SPA.

The noise disturbance from the use of current meters and MBES will not result in any significant effects on marine mammals, as sound emitted from these survey equipment items are at frequencies outside the hearing threshold ranges of seals and cetaceans.

In conclusion, the SISAA stated that that the proposed marine surveys do not pose a risk of significantly affecting (either directly or indirectly) the conservation features of any European site within the Zone of Influence, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

An Annex IV Species report has been prepared for the licence application to determine any possible impacts to animal species listed under Annex IV(a) of the Habitats Directive. Within this report, it is identified that there are two SACs with Annex IV animal species as conservation features within the Zone of Influence of the proposed marine surveys. These are the:

- Gweedore Bay and Islands SAC (Site code: 001141) (4.1km from Project area) – Otter (Lutra lutra) [1355] and Phocoena phocoena (Harbour Porpoise) [1351]
- Cloghernagore Bog and Glenveagh National Park SAC (Site code: 002047) (6.9km from the Project area) – Otter (Lutra lutra) [1355]

Other marine mammal species under Annex IV of the Habitats Directive include:

- Common bottlenose dolphin (Tursiops truncatus)
- Short-beaked common dolphin (Delphinus delphis)
- Leatherback turtle (Dermochelys coriacea)
- Loggerhead turtle (Caretta caretta)

These species are not listed as QIs for any of the SACs located in the Zone of Influence. However, they are known for their foraging range which makes them a potential species to occur in the Project area.

Other species not included within Annex IV are also assessed, as these species may have foraging ranges which encompass the licence boundary. The species included in this section are:

- Harbour seal (Phoca vitulina) [1365]
- Grey seal (Halichoerus grypus) [1364]
- Basking shark (Cetorhinus maximus)

The impact mechanisms identified, which may potentially impact Annex IV species, includes physical disturbance, collision risk and noise disturbance from the deployment and operation of the survey equipment.

Due to the limited spatial extent of the survey equipment to be deployed across the licence area and the limited duration of the survey works, there are no significant effects identified to any Annex IV or non-Annex IV species, as listed above. There are thus no mitigation measures required.

Flora listed under the Flora (Protection) Order 2022, have potential to occur within the boundary of the licence area. However, their spatial extent will be limited due to the licence area being located on the seaward side of the high water mark. Any potential impacts are localised and temporary and may be as a result of the placement and removal of meteorological stations or river gauges. The metrological station W1 is proposed to be located in an agricultural field adjoining Ballyness Pier, which is actively grazed by livestock. There are no significant or adverse impacts to flora as a result of the deployment or operation of the meteorological station.

4.5 Fisheries and Aquaculture

The proposed marine surveying will not impact any of the recently licensed aquaculture sites within the survey area, if they become operational. The proposed types of surveys are short in duration and are common in Ireland and will not be place within the licenced aquaculture sites (as mapped and listed by the Department of Agriculture, Food and Marine).Sea angling under licence is permissible in Ballyness Bay and angling for sea trout and salmon occurs in the rivers Ray and Tullaghobegley, there will be no impact on angling as a result of the placement of river gauges in these rivers. Overall, there are no predicted negative or adverse impact on any aquaculture area or fisheries activities.

4.6 Air Quality

There will be no air quality impacts due to the survey works as the survey equipment no emissions to air. The use of vehicles and boats for the transport and deployment of the survey

equipment is required however emissions are negligible when considered in combination over the duration of the survey period.

4.7 Noise and Vibration

No vibration disturbance will result from the survey instruments which will be deployed. The impacts of noise have been considered in the accompanying Supporting Information for Screening for Appropriate Assessment (SISAA) and it concluded that the frequencies of sound emitted from the MBES or current meters will not be heard by various marine mammals (identified in Table 6.1 of the SISAA) and the effects are not considered to be considered to be significant.

4.8 Landscape/Seascape

These works are temporary in nature and are of a similar nature to navigation aids in coastal waters around Ireland, therefore there will be no impact on landscape or seascape as a result of the proposed surveying activities.

4.9 Traffic and Transport (including navigation)

There will be no traffic impacts on the local road network as a result of the proposed survey activities as there is negligible vehicular movements required for the deployment and removal of the survey instrumentation. One tide gauge – A1, is located in proximity to the ferry route for Tory Island and Inishbofin. Consultation with the ferry company will be undertaken to ensure that any survey result can be undertaken without impact on the ferry routes through the appropriate timing of the survey.

4.10 Cultural Heritage (including underwater archaeology)

The closest wreck as noted by the National Monuments Service map viewer is the Stolwijk (SS) (wreck no: W07653) located at Keelasbeg Sound, Carricknacruboge rock, northeast side of Inishdoey Island. The wreck is located within the licence boundary; however, there will be no survey works or survey instrumentation located within close proximity to the wreck. The bed mounted equipment will not result in any greater impact on any potentially unidentified archaeological remains than typical anchoring. The meteorological station to be located at Ballyness Pier will avoid the Zone of Notification for monument DG024-001, classified as a midden. The meteorological station is a self-contained unit which will be removed upon completion of the marine surveys and will not impact any subterrain archaeology. There is no predicted impacts to any identified cultural heritage assets within the survey area.

4.11 Population and Human Health

There is no population or human health risks from the proposed survey activities.

4.12 Major Accidents and Disasters

The proposed maritime usage does not have any characteristics which would result in any major accident or disasters.

4.13 Climate

There will be no impacts to climate as a result of the proposed surveying activities.

4.14 Waste

There will a negligible volume of waste produced as a result of the proposed survey activities, this is related to dye and microbial packing waste which will be disposed of as per the packaging instructions and either recycled, or sent for disposal at a licenced waste facility.

4.15 Material Assets

There will be no risk for material assets due to our characteristics, nature and duration of the survey activities.

4.16 Interactions

There are minor interactions between ferry and the proposed maritime usage; however, the avoidance of surveying along the direct ferry route will be ensured through consultation with the ferry operator.

4.17 Summary of Mitigations

There is no mitigation proposed or deemed to be required due to the negligible impacts on the environment by the proposed survey activities.

5 Conclusion

This Assessment of Impacts of the Maritime Usage report has been prepared to support the Maritime Usage Licence (MUL) application by Uisce Éireann, for proposed marine modelling survey activities in Ballyness Bay and North Atlantic Ocean. The MUL application relates to the marine modelling surveys as an aid to developing a design for a new discharge outfall for a proposed upgraded and replacement wastewater treatment plant for the agglomeration of Falcarragh.

The surveys will be temporary in duration and comprise bed mounted survey equipment and associated floatation components, which will be deployed or controlled from boats, or remotely controlled/un-manned drones. Maintenance of the equipment will be undertaken via boat/s and all equipment will be removed following the end of the survey period. The type of marine surveying which is the subject of this application are common in Irish coastal waters. Due to the low-intrusive nature and temporary duration of the proposed survey activities, there will be no significant, adverse or negative impacts likely to occur. As a result, no mitigation measures are required.

It has been identified that the EIA Directive is not applicable to the proposed maritime usage, as it is not a class of development, nor presents any characteristics of any class of development, listed in Annex I or II of the EIA Directive. This report also concludes that the proposed survey activities will not result in any negative impacts or impediment to the achievement of the conservation objectives of the WFD and MSFD.

Appendices

A. Screening for Environmental Impact Assessment

MOTT MACDONALD

Falcarragh Marine Modelling Study

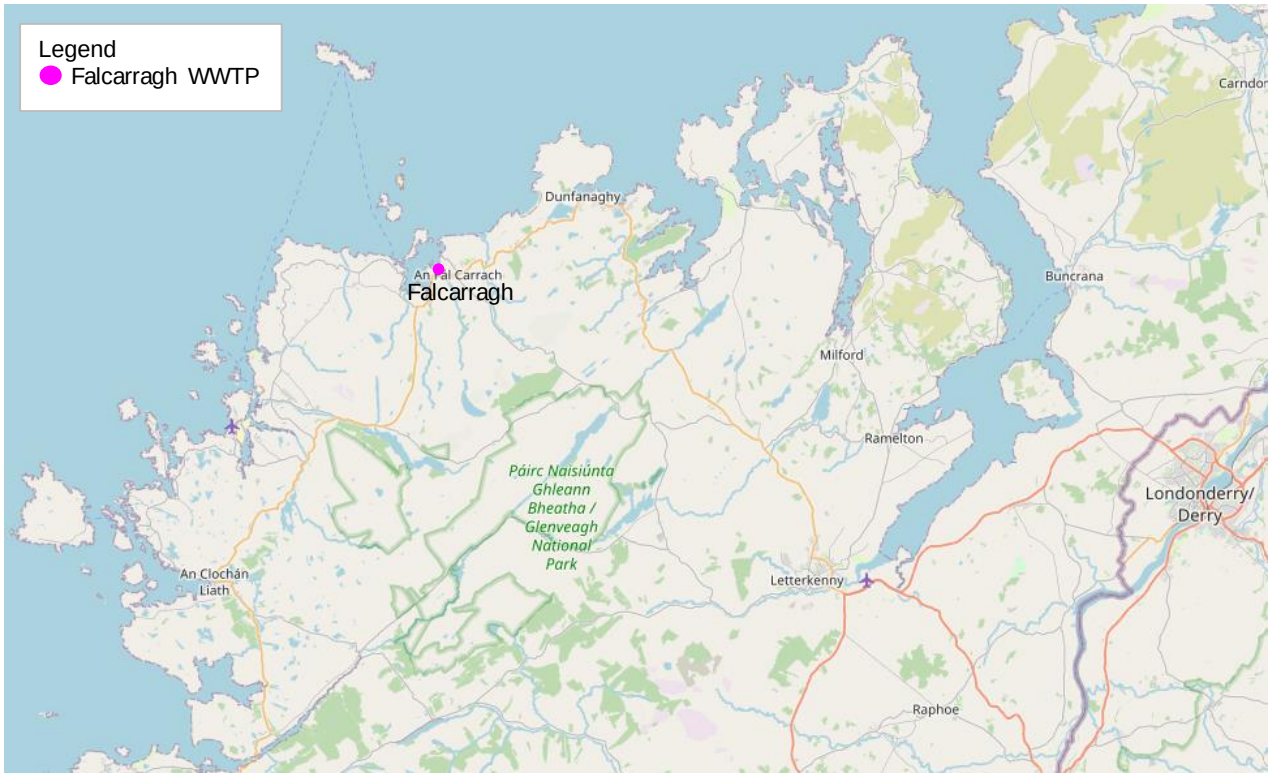
Screening for Environmental Impact Assessment

Project:	Marine Modelling Study at Falcarragh Co. Donegal		
Our reference:	229100414-MMD-Fal-00-RP-C-1002		
Prepared by:	[redacted]	**Date:**	08.04.2024
Approved by:	[redacted]	**Checked by:**	[redacted]
Subject:	Screening for Environmental Impact Assessment t		

1 Introduction

Mott MacDonald Ireland Limited (Mott MacDonald) has been appointed by Uisce Éireann to provide Technical Services to the Early Contractor Involvement (ECI) Wastewater Programme. Mott MacDonald has been tasked with assessing the requirements for environmental impact assessment (EIA) under the Planning and Development Regulations 2001, as amended, for proposed marine surveys within Ballyness Bay, Falcarragh, County Donegal. The proposed marine surveys are required to inform the location and impacts of a proposed new outfall discharge for Falcarragh Wastewater Treatment Plant (WWTP) in County Donegal. The location of Falcarragh WWTP is illustrated in Figure 1.1.

Figure 1.1: Location of Falcarragh WWTP



Source: © OpenStreetMap Contributors

This screening report is undertaken to document the methodology employed to complete a non-statutory screening exercise as part of the purpose of obtaining a marine usage licence and thus to inform the view as to whether EIA is required. The question of whether EIA is required arises only in relation to projects which come within the scope of one or more of the project classes listed in Annex I or Annex II of the Directive 2011/92/EU, as amended by Directive 2014/52/EU (together the "EIA Directive") and/or the corresponding classes of project listed in Schedule 5, Parts 1 and 2 of the Planning and Development Regulations 2001, as amended. For the avoidance of doubt, projects which do not come within the scope of any of the listed projects, interpreted broadly, are not subject to any requirement for EIA, or screening for EIA, under the EIA Directive.

In respect of the requirements for a maritime usage licence under provisions of the Maritime Area Planning Act 2021 (as amended) (MAPA), Section 111(1) states that *"a licence shall not be granted for a Schedule 7 usage that requires an environmental impact statement"*. Furthermore, Section 117(5)(a) of MAPA states that *"the MARA shall, as soon as is practicable after it receives a licence application, carry out screening for environmental impact assessment in respect of the proposed maritime usage the subject of the application if it considers that it is necessary to do so after having regard to Schedules 5 and 7 to the Planning and Development Regulations 2001 (S.I. No. 600 of 2001)".*

1.1 Description of the Proposed Survey

The required marine modelling surveys are listed in Table 1.1 and their locations are illustrated in Figure 1.2. The locations for water quality sampling are shown in Figure 1.3. These surveys will be undertaken for a minimum period of 35 days and will be required to record spring and neap tides. The meteorological station and river flow gauges will remain in situ for a minimum period of 12 months.

The surveys are not seasonally constrained, as spring and neap tides occur bi-monthly. The only land-based survey equipment will be the meteorological stations; these stations do not require any works to facilitate

their placement on land as they are self-contained and preassembled units and will be temporarily fixed/staked to the ground. The remainder of the survey equipment is either drone operated, or comprising floating instrumentation deployed from a boat. The river or tidal gauges will be staked to the riverbed or seabed for a 12-month period. There are no other activities proposed or required to facilitate the surveys required, apart from those described herein. Following the completion of surveys, all survey equipment will be removed.

Table 1.1: Hydrodynamic and water quality surveys

Survey Type	Location as identified in Figure 1.2	Description of Survey and survey equipment
Meteorological Station	W1	To aid the validation of data gathered in this survey, the meteorological station is proposed to be installed and operational prior to commencement of all surveys. This will remain operational until the recovery of all surveying equipment. The proposed location for the meteorological survey station is on land.
Tide Gauge data	T1 to T5	Five tidal gauges are proposed. The tidal gauges will be installed prior to any hydrodynamic and water quality monitoring and will not be removed until completion of all other water-based surveys.
River Flow and Stage data	F1 to F3	Three flow gauges are proposed. The flow gauges will be installed prior to any hydrodynamic and water quality monitoring and will not be removed until completion of all other water-based surveys. River water quality sampling will also take place at each of these locations.
Bathymetric data	Completed by a drone	A Light Detection and Ranging (LiDAR) survey, covering shallow (<5m depth) areas during low tides, will be carried out to fill the bathymetry data gaps, as shown on the dashed area in Figure 1.3. The LIDAR survey will be completed by a remotely controlled/un-manned drone, there will be no impact on land or water habitat.
Current/velocity data	A1 to A4	There is no current/velocity data available. Current monitoring will be undertaken using bed mounted current meters to provide the necessary dataset for model calibration and verification purposes. A total of four monitoring locations is proposed.
Temperature and salinity data	A1 to A4	To aid model calibration and verification, both salinity data and temperature data has been recommended to be collected to inform the decision-making process and to improve model robustness. Near-bed Temperature and Salinity sensors will be included in bed-mounted current meter deployment which will be correctly positioned and anchored from a boat. This may be supplemented by boat access to maintain the sensor during the survey period.
Water quality data	Mounted buoys or remote-controlled boat access	There is limited water quality sampling data available adjacent to the outfall of the existing WWTP at Falcarragh. To establish the baseline conditions, additional sampling will be necessary. Water quality sampling is recommended within Ballyness Bay, as well as at the tidal limits of contributing rivers. Sampling will be undertaken using pontoons preferably (e.g., sampling equipment mounted on Buoys), or via a remotely controlled boat access (ARCBoat). An automatic sampler may be deployed to collect water samples, or samples may be taken manually depending on available access. A total of 14 water quality sample locations will be undertaken within the licence boundary.
Dye and microbial tracing	Deployed from a boat	Tracing data is valuable to understand the dispersion pattern of effluent and to aid conceptual model calibration and verification processes under different conditions (e.g., with and without wind). The tracer will be dispersed from a boat and drone surveys will be conducted in parallel with the dye releases to monitor the progression of the dye plume. A hydro-drone will also be deployed with a mounted GPS system to monitor the concentration of the dye plume in-situ and its development and variation over time. A total of 4no. surveys will be conducted each for a duration of 13 hours under different tide/wind scenarios: 1. Spring tide & low/no wind conditions 2. Neap tide & low/no wind conditions 3. Spring tide & high wind conditions 4. Neap tide & high wind conditions

Figure 1.2: Marine Survey Locations

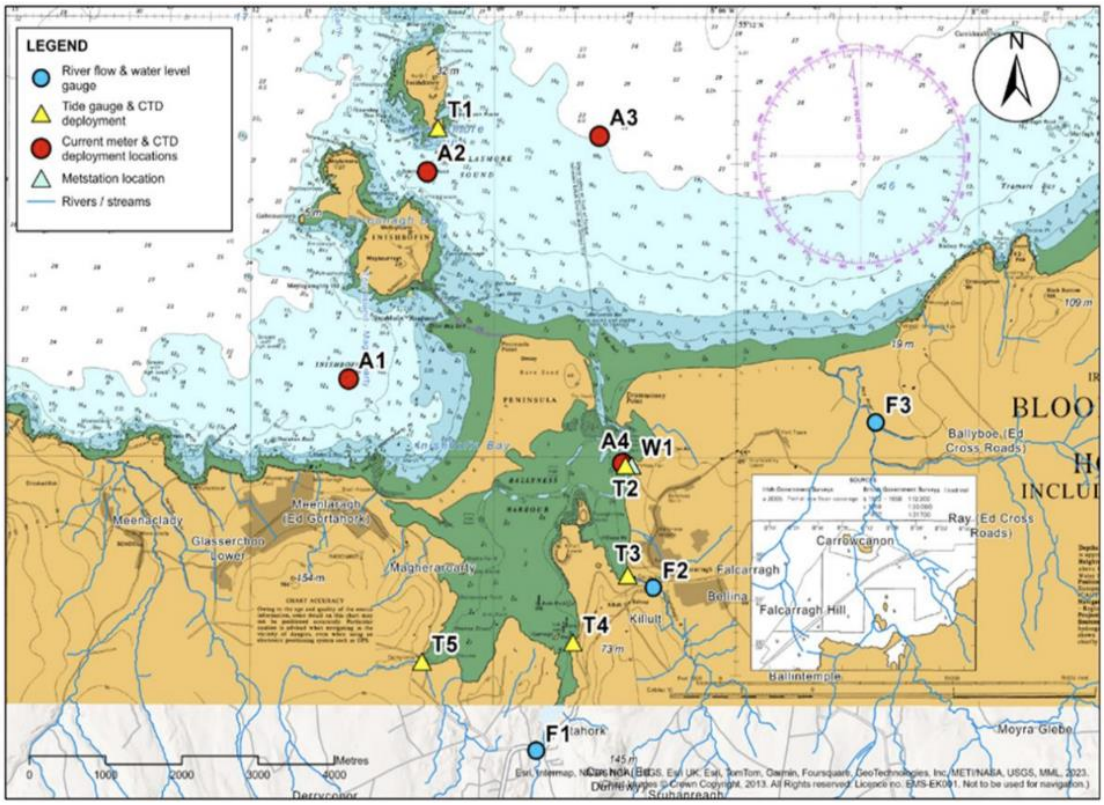


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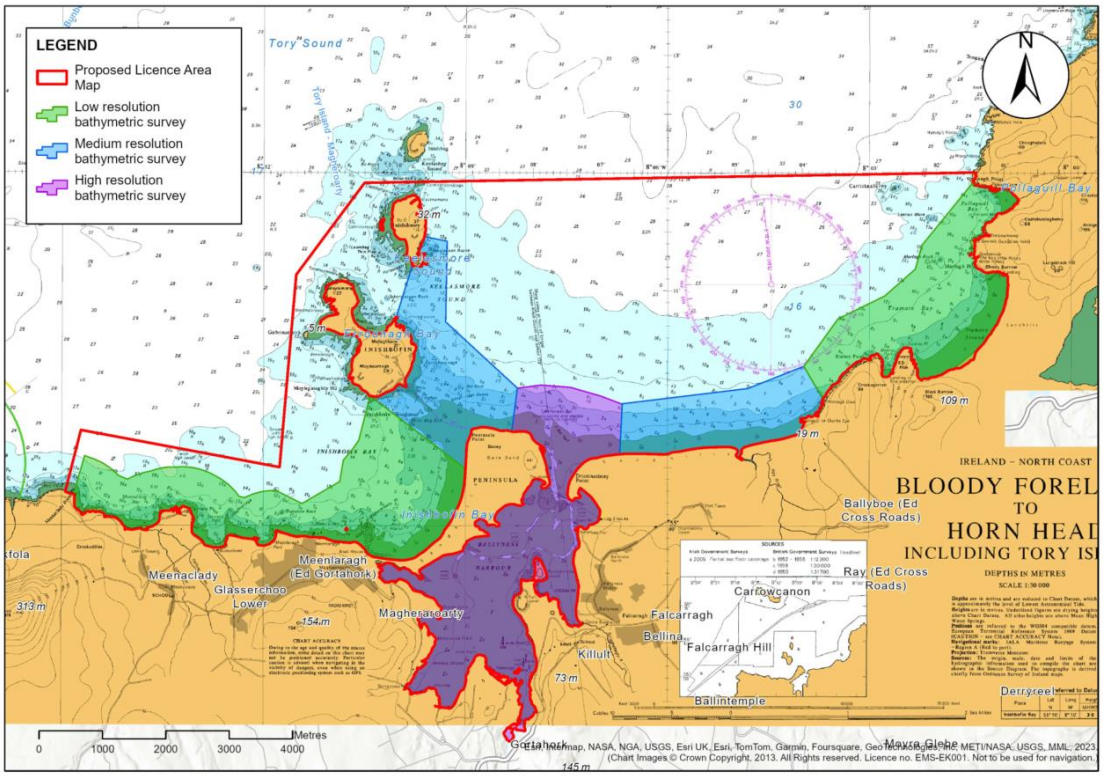
Figure 1.3: Survey boundary and bathymetry survey area



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2 Legislative Requirements

The primary objective of the of the EIA Directive (Directive 2011/92/EU), as amended by Directive 2014/52/EU (together, the "EIA Directive"), is to ensure a high level of protection of the environment and human health, through the establishment of minimum requirements for environmental impact assessment (EIA), prior to development consent being awarded, of public and private developments that are likely to have significant effects on the environment.

Pertinent to the proposed works is the definition of a 'project' in the EIA Directive, which is stated in Article1(2)(a) as meaning:

"- the execution of construction works or of other installations or schemes

- other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources"

The European Commission published guidance "Interpretation of definition of project categories of annex I and II of the EIA Directive" (EC, 2015), states the following which is applicable to the proposed works, in relation to mobile and temporary installations:

"Even though mobile installations are not mentioned explicitly in the EIA Directive, the scope of the Directive also covers these as well as temporary installations. When mobile and/or temporary installations have the characteristics (and associated impacts) of project categories included in Annex I and II of the EIA Directive, they must be subject to its requirements".

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) transposed the requirements of the 2014 EIA Directive (Directive 2014/52/EU) into existing Irish planning consent procedures, i.e. the Planning and Development Regulations 2001, as amended (P&D Regulations).

In determining the requirement for EIA, the Directive differentiates between the projects that always require EIA and those for which an EIA may be required. These projects are listed in Schedule 5 Part 1 and Part 2 of P&D Regulations.

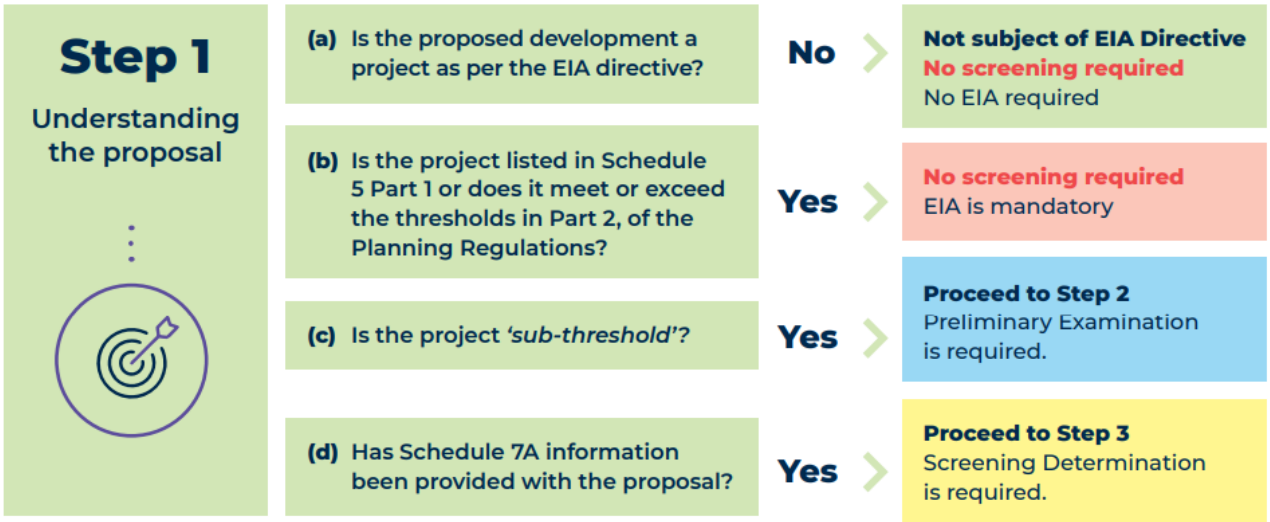
- Part 1 projects are projects which are considered as having significant effects on the environment and require a mandatory EIA; and
- Part 2 projects Part are those projects not included in Part 1, but which may require EIA where the proposed development is of a class specified in Part 2, and equals or exceeds the relevant thresholds; or where the proposed development would be of a class specified in Part 2, but does not equal or exceed the prescribed threshold in Part 2, yet it is concluded, determined or decided, that the proposed development is likely to have a significant effect on the environment.

As is the case under EU law, under national law the requirement to carry out EIA or screening for EIA, only arises in relation to projects which come within the scope of one or more classes of project listed in Parts 1 or 2 of Schedule 5.

EIA, or Schedule 7 or 7A Assessment (as per the criteria listed under the respective schedule in the Planning and Development Regulations 2001, as amended), is not required where a proposed development does not come within any of the classes of project listed in Schedule 5, interpreted broadly, irrespective of the size or location of the proposed development or whether it is considered likely to have a significant effect on the environment.

In June 2021 the Office of the Planning Regulator published Practice Note PN02 – Environmental Impact Assessment Screening, which provides a three-step approach to the process of screening for EIA. This report follows Step 1 of this process, as presented in Figure 2.1.

Figure 2.1: OPR Step 1 – Understanding the Proposal



Source: Office of the Planning Regulator OPR Practice Note PN02 – Environmental Impact Assessment Screening

3 Is the Proposal a project listed as the EIA Directive

The OPR Practice Note highlights that understanding the nature of the proposal is an essential first step in considering whether EIA is required. Importantly, it states under Step 1(a) that 'Understanding the proposal', where a proposal(s) is/are *not a 'project',* the EIA Directive **does not apply**.

As stated in the EU Guidance (EU, 2015) on the interpretation of definitions within the EIA Directive, the proposed surveying can be considered a 'project' under Article 1(2), even though the proposed survey activities are limited to mobile installations and are temporary in duration. However, project types listed in Annex I and II of the EIA Directive do not describe the proposed survey activities. Additionally, the proposed surveying does not share any of the characteristics (and associated impacts) of project categories included in Annex I and II of the EIA Directive.

The proposed marine surveying is therefore not considered to be a project type, or share the characteristics, of any project description within Annex I or II of the EIA Directive, or Schedule 5 of the P&D Regulations. The EIA Directive is not applicable to the proposed surveying activities and therefore it does not require EIA Screening or EIA to be completed.