Report supporting Appropriate Assessment Screening of Extensive Aquaculture in Bantry Bay.

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Glossary of Acronyms

AA	Appropriate Assessment
CM	Conservation measure
COs	Conservation Objective(s)
DAFM	Department of Agriculture, Food and the Marine
DEHLG	Department of Environment, Heritage, and Local Government
EIAR	Environmental Impact Assessment report
European site	Natura 2000 site
FCS	Favourable conservation status
IROPI	Imperative reasoning of overriding public interest
Natura 2000	Network of nature protection areas, Including the SACs and SPA designated under the Habitats Directive and the Birds Directive
NPWS	National Parks and Wildlife Service
QIs	Qualifying Interest(s)
SAC	Special Area(s) of Conservation
SCI	Special Conservation Interest(s)
SPA	Special Protected Area(s)
t	Tonne (1,000kg)

1 Introduction

This is an Appropriate Assessment Screening document supporting the Appropriate Assessment of extensive aquaculture activities in the Bantry Bay area. The report assesses the potential for the proposed aquaculture activities to have likely significant effects on the Qualifying Interests (QIs) or Special Conservation Interests (SCIs) of connected or adjacent Natura 2000 sites, individually or in combination with existing or planned aquaculture activities.

Extensive aquaculture is defined in Regulation 3(iii) of the Aquaculture (Licence Application) Regulations, 1998 (as amended[1]) as "*aquaculture activities where there is no external supply of feed, and the culture depends entirely on natural processes for production and supply of feed*". Shellfish (molluscs, echinoderms, bivalves and gastropods) and seaweed aquaculture fall within this definition.

This report is to consider if the proposed aquaculture activities are likely to significantly affect the QIs or SCIs of Natura 2000 sites in view of their Conservation Objectives (COs). This is achieved by following the screening process in Section 4. If there is potential for the activities considered to likely, significantly affect QIs and their conservation features, they will be carried forward for full assessment and considered on a cumulative basis with other aquaculture activities and other potentially disturbing activities.

This report applies specially to the proposed activities described in this document in Section 2. It does not constitute a full assessment of the potential environmental effects of all finfish aquaculture activities on conservation features as defined by Natura 2000 designations, as any live aquaculture applications and active finfish operations are only considered in the instance that they have the potential to have in-combination or cumulative effects with aspects of the existing extensive aquaculture, and other likely disturbing activities.

The information upon which this assessment is based is a list of applications and extant licences for aquaculture activities administered by the Department of Agriculture Food and Marine (DAFM) and supplied to the Marine Institute; as well as information provided by the applicants. The spatial extent of aquaculture licences is derived from a database managed by the DAFM[2].

1.1 Structure of AA Reports

This screening report provides:

- **Introduction -** an outline of the legislative context and the processes.
- **Appropriate Assessment Screening -** providing details of the AA screening undertaken.
- **Stage I Conclusions** - provides an outline of the findings from the screening process.

1.2 Legislative Context

Articles 3 - 16 of the European Community (EC) Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive[2]) provide the legislative means to protect

[1] Aquaculture (Licence Applications) (Amendment) Regulations 2018 Regulation 3(iii) Link
[2] AquaMIS aquaculture viewer Licensed Aquaculture Sites

habitats and species of Community interest through the conservation of an EU-wide network of protected sites, known as Natura 2000 sites [3]

The Habitats Directive[4] was originally transposed into Irish law by the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). The 1997 Regulations were subsequently replaced by the European Communities (Birds and Natural Habitats) Regulations 2011[5], as amended (referred to as the 2011 Birds and Natural Habitats Regulations). Natura 2000 sites are referred to as European sites in these Regulations. The terms Natura 2000 sites and European sites are synonymous - the term Natura 2000 sites is used in this report. Natura 2000 sites in Ireland form part of the Natura 2000 European network of protected sites, include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

SACs are designated due to their significant ecological importance for habitats and for species protected under Annex I and Annex II respectively of the Habitats Directive. SPAs are designated for the protection of populations and habitats of bird species protected under the Birds Directive, EC 79/409/EEC[6]. The specific named habitats and/or (non-bird) species for which an SAC or SPA are selected are called the Qualifying Interests (QI), of the site. The specific named bird species for which a SPA is selected is called the 'Special Conservation Interests' (SCI). However, in practice, the common terminology of QI applies also to SCI. The term QI is used throughout this report.

Under Article 6(3) of the Habitats Directive any plan or project likely to significantly affect, either individually or in combination with other plans or projects (and it is not connected with or necessary for the management of a protected site), the integrity of a Natura 2000 site must be subject to an Appropriate assessment (AA). The AA focuses on the likely significant effects of a plan or project on a Natura 2000 site and considers the implications for the site in view of its Conservation Objectives (COs). Every Natura 2000 site has COs which are set out by the National Parks and Wildlife Service (NPWS) - the competent authority for the management of Natura 2000 sites in Ireland. The AA process must also consider any plan or proposal in combination with other activities that have the potential to significantly affect the integrity of the Natura 2000 site.

DAFM is the aquaculture licensing authority under the Fisheries (Amendment) Act (1997)[7] and has responsibility for foreshore licensing functions in respect of activities wholly or primarily for the use, development or support of aquaculture under the Foreshore Act (1933)[8]. They determine applications for new, renewal or review of, aquaculture and foreshore licences. They are also the competent authority responsible for undertaking AA of aquaculture licence applications. As part of the licensing process DAFM must determine if the proposed aquaculture activities, individually or in-combination with other activities, are likely to significantly impact the Conservation Status of QIs and the integrity of the Natura 2000 site. DAFM must base its determination on an AA and is also responsible for ensuring that an AA is carried out.

If the AA process finds that the possibility of significant adverse effect cannot be discounted or that there is a likelihood of negative consequence for the conservation features for which a site is

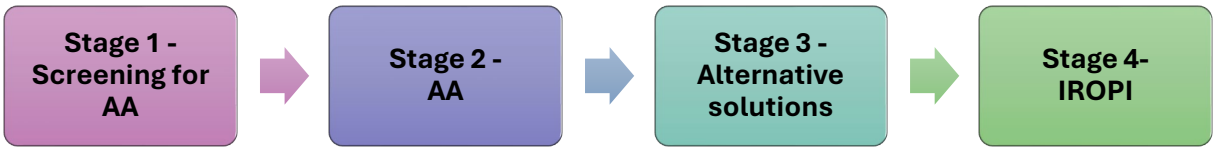
[3] Natura 2000 https://ec.europa.eu/environment/nature/natura2000/index_en.htm
[4] The Habitats Directive https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
[5] European Communities (Birds and Natural Habitats) Regulations 2011 NPWS Link
[6] The Birds Directive https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
[7] Fisheries (Amendment) Act, 1997 Lawreform.ie
[8] Foreshore Act 1933 Revised Acts (lawreform.ie)

designated, then such activities will need to be mitigated further if they are allowed to continue. The assessment reports are not always explicit on how this mitigation might be achieved but rather indicate whether mitigation is required or not and what results should be achieved. This report supporting the AA, informs part of the assessment process – Stage 1 Screening.

1.3 Appropriate Assessment (AA) Process

The requirement for an AA derives directly from Article 6(3), which outlines the decision-making tests for considering plans and projects that may have a significant effect on a Natura 2000 site. No definition of the content or scope of AA is given in the Habitats Directive, but the concept and approach are set out in EC guidance[9]. The Guidance on Appropriate Assessment of Plans and Projects in Ireland document [10]published by the Department of Environment, Heritage and Local Government (DEHLG) in 2009, sets out how an AA of plans or proposals in Natura 2000 sites in Ireland should be carried out in alignment with EC guidance. In 2021, the Office of the Planning Regulator (OPR) published a practice note on AA Screening[11], which provides guidance on how a planning authority should screen an application for planning permission for AA.

The *Guidance on Appropriate Assessment of Plans and Projects in Ireland* document promotes a four-stage process to complete the AA. The four stages are:



The key procedures involved in completing the first two stages of the AA process are described below. Stage 3 and Stage 4 (Imperative reasoning of overriding public interest) are not applicable here.

1.3.1 Stage 1: Appropriate Assessment Screening

Stage 1 AA Screening is the process that addresses and records the reasoning and conclusions in relation to whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of the site's COs. If any effects, on the basis of objective information, are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 Appropriate Assessment. Screening should be undertaken without the inclusion of mitigation. The triggers during appropriate assessment screening are based on the 'likelihood' of a potential significant effect occurring and not on certainty. A high degree of evidence and justification is needed in circumstances when the process ends at screening stage on grounds of no likely significant effect.

1.3.2 Stage 2: Appropriate Assessment

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. This stage requires a targeted scientific

[9] EC 2018. Guidance on Aquaculture and Natura 2000 Sustainable aquaculture activities in the context of the Natura 2000 Network Link
[10] DEHLG, 2009. Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Link
[11] OPR - Office of Planning Regulator (2021). Appropriate Assessment Screening for Development Management. March 2021. 43pp Link

examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's QIs and COs, taking account of in combination effects.

The sensitivity of identified QIs in relation to the proposed activities is assessed and the significance of any identified adverse effects is then determined. If adverse effects are determined to be likely, then their scale, magnitude, intensity, and duration are considered in light of the COs and relevant guidance documents. If the assessment is negative, then recommendations on mitigation measures or on licensing decisions will be made.

1.4 Data sources

This process and report rely on data and information from a broad and diverse range of sources. Some of the key sources of information that are generally viewed, consulted and/or utilised to inform the screening and AA processes are listed below. Others are consulted as required, and significant sources are cited in the reports.

Reference documents and Sources of information used to inform this process include:

- The Application
- DAFM Aquaculture & Foreshore Management website
- DAFM - Aquaculture viewer – AquaMIS
- National Parks & Wildlife (NPWS) protected site information for NPWS website, including conservation objectives
- NPWS development applications guidance documents
- BIM aquaculture profiling reports
- Targeted scientific studies
- Primary research literature
- Grey literature, reviews and report documents
- Expert opinion
- Direct queries to applicants through DAFM
- Fisheries (Amendment) Act 1997
- Aquaculture (Licence Application) Regulations, 1998, as amended
- Ireland's Marine Atlas, Marine Institute
- MI/BIM Inshore fishing reports (from websites)
- DHPLG Foreshore licencing database
- National Biodiversity Data Centre
- EPA GeoHive
- EPA maps tool
- Maritime Area Regulatory Authority (MARA)
- NPWS Article 17 Reports - Status of EU Protected Habitats and Species in Ireland
- Birdwatch Ireland website
- Irish Wetland Bird Survey (I-WeBS)
- EC Article 12 web tool on population status and trends of birds
- Marine Life Information Network - Marlin.ac.uk
- EPA Catchments.ie dashboard
- Ordnance Survey of Ireland (OSI)
- European Environmental agency
- OPR, 2021. Appropriate Assessment Screening for Development Management. March 2021; Office of Planning Regulator.
- Official Journal of the EU. 2021. Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive.
- DEHLG, 2009. Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities. NPWS, 2009 – updated in 2010 with reference to Natura Impact Statement.
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Edited by: Deirdre Lynn and Fionnuala O'Neill

- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Edited by: Deirdre Lynn and Fionnuala O'Neill
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Edited by: Deirdre Lynn and Fionnuala O'Neill
- Möckel, S., 2017. The European ecological network "Natura 2000" and the appropriate assessment for projects and plans under Article 6 (3) of the Habitats Directive. Nature Conservation, 23.
- EC Article 6 - Managing and protecting Natura 2000 sites
- EC Management of Natura 2000 sites: Best Practice
- EC 2000. Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg.
- EC 2002. Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg.
- EC 2006. Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg.
- EC 2018. Guidance on Aquaculture and Natura 2000 Sustainable aquaculture activities in the context of the Natura 2000 Network.
- EC 2012. Common methodology for assessing the impact of fisheries on marine Natura 2000. Service Contract No. 070307/2010/578174/SER/B. DGEnv Brussels.
- Poelman *et al.*, 2022. Study on state-of-the-art scientific information on the impacts of aquaculture activities in Europe.
- Federal Agency for Nature Conservation for the FFH impact assessment
- MI 2023 a-h, ABPMer. Tools for Appropriate Assessment of Fishing and Aquaculture Activities in Marine and Coastal Natura 2000 Sites
- AMBI Sensitivity Scale
- MarESA
- Marine Institute. 2013. A risk assessment framework for fisheries in Natura 2000 sites in Ireland: with case study assessments. Version 1.3. Galway, 31pp.
- Open Street Maps, Google Earth, and Bing aerial photography

1.5 Assumptions made for Appropriate Assessment Reports

Certain assumptions are made for this report to ensure that it follows a precautionary approach when considering the likely extent, magnitude, intensity, and duration of the potential adverse effects of the proposed activities. These are:

- Aquaculture sites considered in this assessment report are assumed to be fully operational and that the operations (as well as environmental impacts) are occurring across the entire area of the sites, unless otherwise specified.
- Any aquaculture applications which were submitted prior to those being considered here, but still pending decisions (e.g., in process, under appeal, etc.), are also assumed to be fully operational across the entire area of the relevant sites. This ensures a conservative approach and that it assumes these activities will be operational to the maximum extent possible when considering cumulative effects.
- Where multiple species are proposed to be cultured at a site, and in the absence of specific details, the assessment assumes that culture species most probable to result in likely significant effects on the surrounding ecosystem or Natura 2000 QIs will be the primary culture species considered, and that it is cultured throughout the entire area of the proposed site. This ensures that the report considers the highest potential impact in relation to the prospective culture species interaction with the surrounding environment.
- Other assumptions may be identified on a case-by-case basis and are clearly communicated in any AA report.

2 Appropriate Assessment Screening

2.1 Details of Proposed Activities

The MI has been requested to assess 37 applications, as follows:

- 5 new applications.
- 10 applications for a licence renewal (renew a current licence with no changes).
- 20 applications for a licence renewal and review (renew a current licence with changes).
- 2 applications for review (make changes to a currently active licence).

All licences are for extensive shellfish and/ or seaweed aquaculture licenses in Bantry Bay (Table 1).

Table 1 Extensive aquaculture applications within the Bantry Bay area.

Site No.	Site Status	Aquaculture Type	Species	Area (ha)
T05-1010	New	Longlines with Oyster Baskets	Pacific Oyster (*Magallana gigas*), Native Oyster (*Ostrea Edulis*)	9.66
T05-1011	New	Longlines	Irish Wakame (*Alaria esculenta*), Sea Lettuce (*Ulva lactuca*), Dulse (*Palmaria palmata*), Sugar Kelp (*Saccharina latissima*), North European Kelp (Digitata) (*Laminaria digitata*), Toothed wrack (*Fucus serratus*), Harpoon weed (*Asparagopsis armata*)	6.01
T05-1023	New	Longlines	Blue Mussel (Mytilus Edulis)	12.26
T05-1024	New	Longlines	Blue Mussel (*Mytilus Edulis*)	3.67
T05-641A	New	Longlines and Longlines with Oyster baskets	Pacific Oyster (*Magallana gigas*), European flat oyster (*Ostrea edulis*), Irish Wakame (*Alaria Esculenta*), Sugar Kelp (*Saccharina latissima*), Northern European Kelp (Digitata) (*Laminaria Digitata*), Dulse (*Palmaria palmata*), Bladderwrack (*Fucus vesiculosus*), Northern European Kelp (*Laminaria Hyperborea*), Knotted wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea thong (*Himanthalia elongata*), Harpoon Weed (*Asparagopsis armata*)	19.56
T05-053N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	13.12
T05-053N6	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	17.05
T05-058N4	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	13.37
T05-058N5	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	4.63
T05-060N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	7.42
T05-060N2	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	5.00
T05-060N3	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	5.03
T05-060N4	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	0.87

Site No.	Site Status	Aquaculture Type	Species	Area (ha)
T05-060N5	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	36.09
T05-067N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	0.67
T05-067N2	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	4.12
T05-067N4	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	8.60
T05-067N6	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	9.92
T05-069N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	17.2
T05-069N4	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	8.37
T05-069N5	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	22.7
T05-125N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	2.04
T05-214N1	Renewal and Review	Longline	Blue Mussel (*Mytilus Edulis*)	4.64
T05-214N2	Renewal and Review	Longline	Blue Mussel (*Mytilus Edulis*)	1.65
T05-577N1	Renewal and Review	Bag and Trestle with Oyster baskets	Pacific Oyster (*Magallana Gigas*)	3.34
T05-069N2	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	14.2
T05-214N3	Renewal	Longline	Blue Mussel (*Mytilus Edulis*)	6.00
T05-069N3	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	5.4
T05-053N4	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	2.56
T05-547A	Renewal	Longline	Irish Wakame (*Alaria esculenta*), Sea Lettuce (*Ulva lactuca*), Dulse (*Palmaria palmata*), Sugar Kelp (*Saccharina latissima*), North European Kelp (Digitata) (*Laminaria digitata*), Toothed wrack (*Fucus serratus*), Harpoon weed (*Asparagopsis armata*)	5.99
T05-067N5	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	9.00
T05-125N2	Renewal	Longline	Blue Mussel (*Mytilus Edulis*)	7.10
T05-060N6	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	4.54
T05-069N6	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	6.49

Site No.	Site Status	Aquaculture Type	Species	Area (ha)
T05-069N7	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	2.20
T05-591A	Review	Longlines	Blue Mussel (*Mytilus Edulis*)	18.46
T05-430A	Review	Longlines	Blue Mussel (Mytilus Edulis), Irish Wakame (*Alaria esculenta*), North European Kelp (Digitata) (*Laminaria digitata*), Dulse (*Palmaria palmata*), Nori (*Porphyra umbilicalis*), Bladder wrack (*Fucus vesiculosus*), Sugar Kelp (*Saccharina latissima*), North European Kelp (Hyperborea) (*Laminaria hyperborea*), Knotted Wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea Thong (*Himanthalia elongata*), Harpoon Weed (*Asparagopsis armata)*.	24.22

*Areas sourced from AquaMIS (based on production units).

The sites (indicated in figure 1 and figure 2) have applied to culture Blue Mussel (*Mytilus edulis*), Pacific Oyster (*Magallana gigas*), Native Oyster (*Ostrea Edulis)*, as well as seaweeds (green, brown, and red). Production will be carried out using standard longlines, and longlines fitted with hexcyl oyster baskets, as well as traditional bag-and-trestle systems fitted with oyster baskets hanging underneath, operating mainly in the subtidal zone, with some intertidal activity.

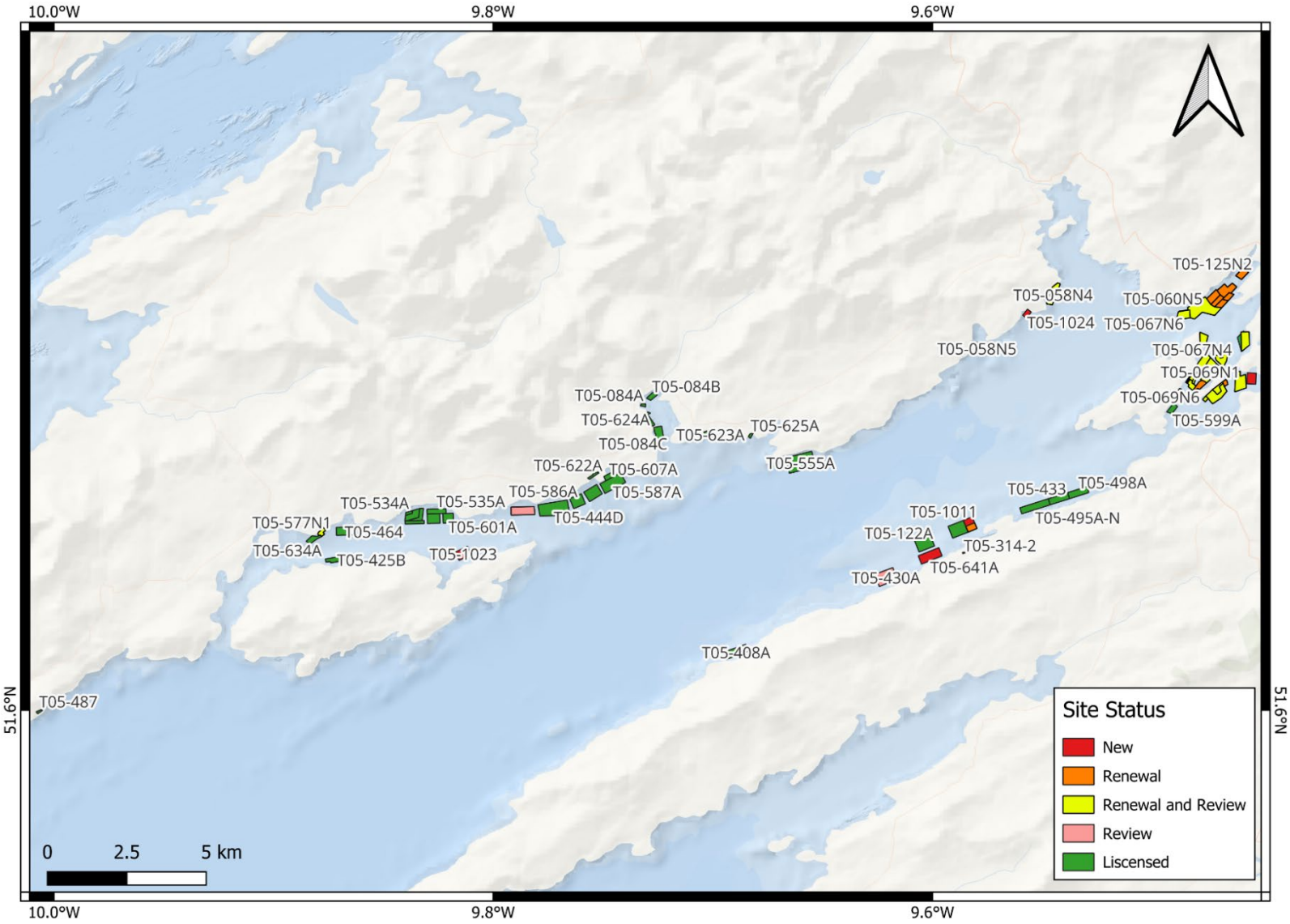


Figure 1 New, renewal, renewal and review, review and licensed aquaculture sites in Bantry Bay.

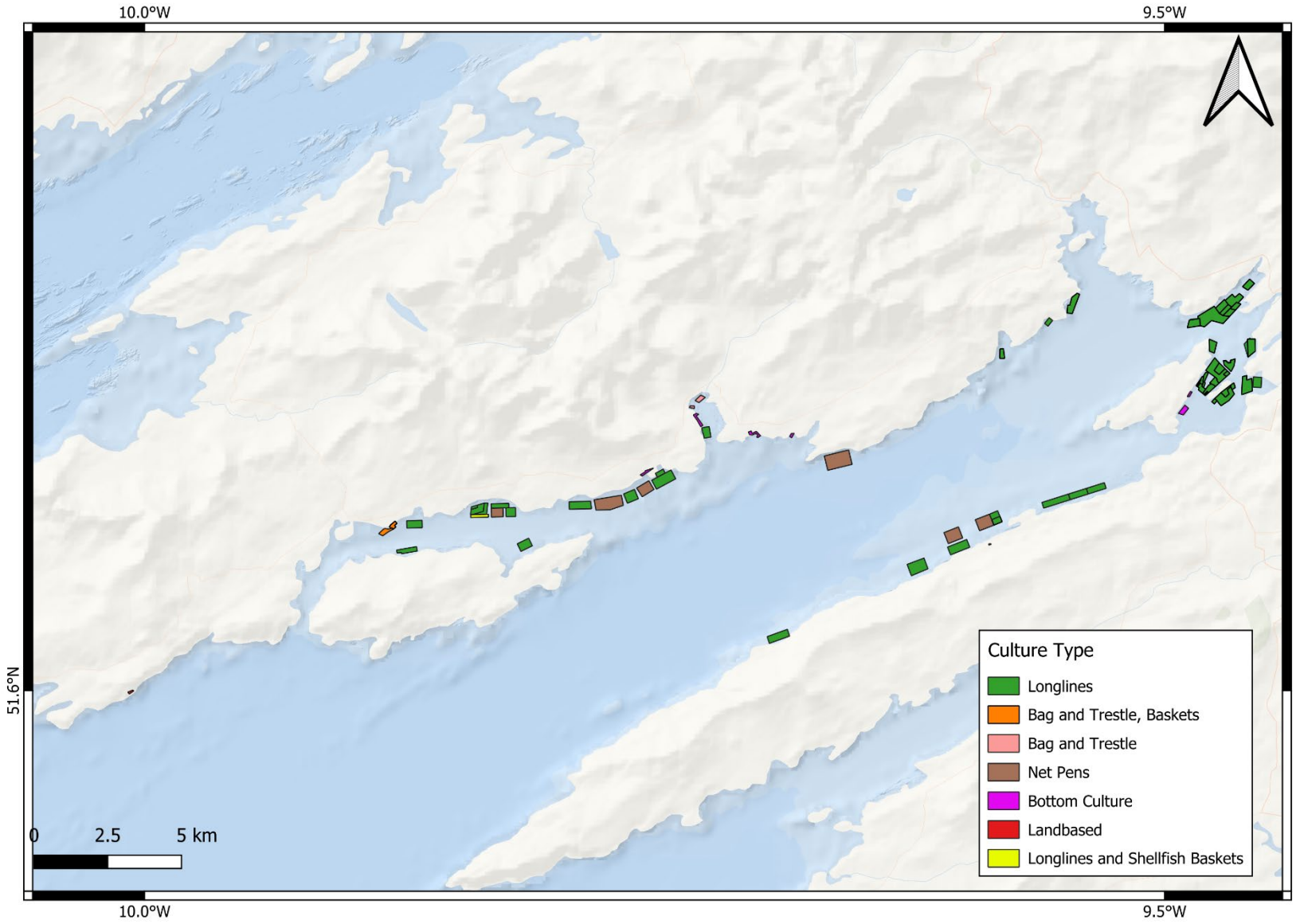


Figure 2 Primary culture type at each site in Bantry Bay.

2.2 Application Detail

2.2.1 Blue Mussel Culture

The Blue Mussel, *Mytilus edulis*, forms the basis of mussel aquaculture operation in Bantry Bay.

Two new license applications (**T05-1023** and **T05-1024**) include application for the cultivation of Blue Mussel (*Mytilus edulis*).

T05-1023- is an application for a total of twenty longlines. Each line is approximately 110m in length with 25 m spacing between. Droppers are suspended approximately 7 metres below the surface. Seed will be sourced from natural spat collection. Lines are anchored at each end by 40 mm polypropylene rope and 45mm chain weighted to the seabed by 3 tonne concrete anchor blocks. The site will be harvested using the applicants existing barges and conveyor belt. The site will be accessed via Pontoon pier using the public road R572.

T05-1024- is an application for a total of five longlines. Each line is approximately 110m in length with 25 m spacing between. Droppers are suspended approximately 6 metres below the surface. Seed will be sourced from natural spat collection. Each line is anchored at each end by 40 mm polypropylene rope and 2 metres of 45mm chain weighted to the seabed by 5 tonne concrete anchor blocks. The site will be harvested using the applicants existing barges and conveyor belt. The site will be accessed from Glengarriff pier using the public road N71.

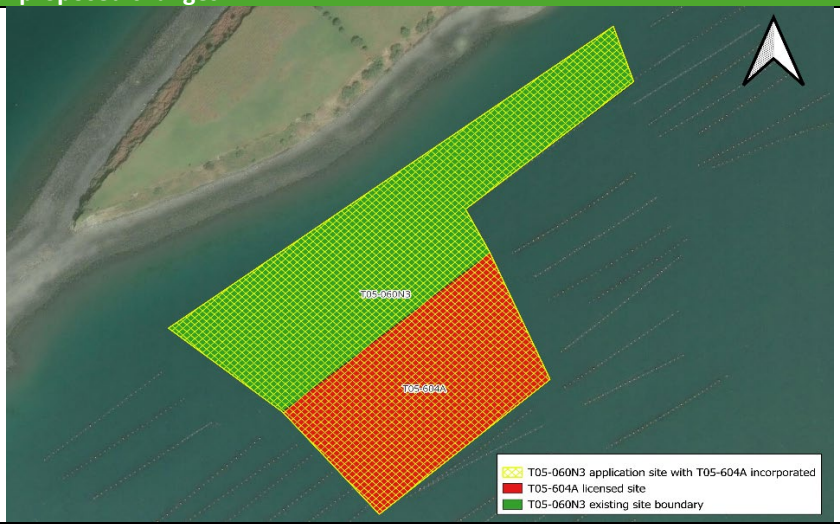
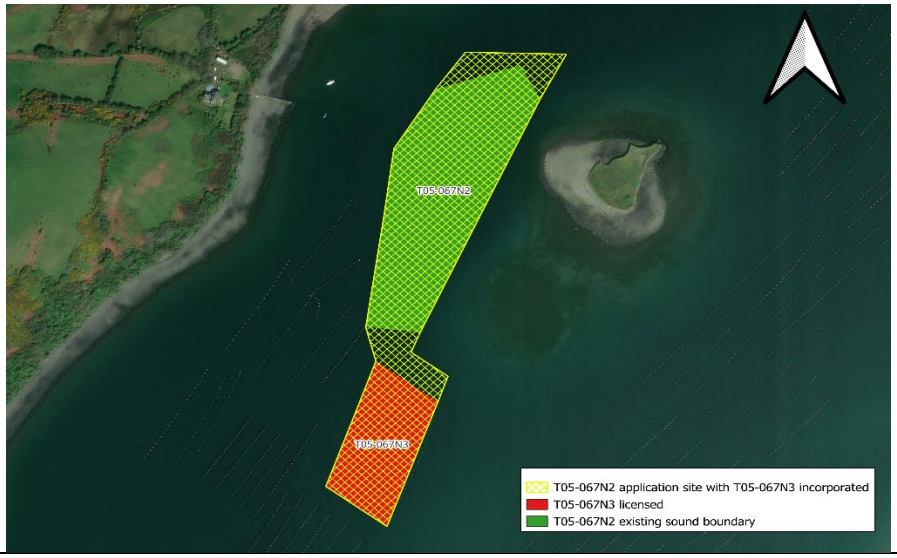
Nineteen renewal and review licence applications include applications for the cultivation of Blue Mussel (*Mytilus edulis*). The applications are to amend the existing site boundary or existing number of longlines present on site, as detailed in Table 2. Seed is sourced using suspended spat collector ropes, after which seed will be graded and socked onto longlines once it reaches the appropriate size. Sites will be harvested by harvesting vessel, continuous hauling of grow ropes will be carried out with the use of sheaves, elevators and rope stripper. Mussels are stripped from grow rope, washed and bagged in bulk bags for live export. Sites will be accessed via Bantry Pier and Glengarriff Pier, using the public road N71.

Nine renewal applications include an application for the cultivation of Blue Mussel (*Mytilus edulis*). Seed will be sourced from natural spat collection. Sites will be harvested by harvesting vessel, continuous hauling of grow ropes will be carried out with the use of sheaves, elevators and rope stripper. Mussels are stripped from grow rope, washed and bagged in bulk bags for live export. All sites will be accessed via Bantry Pier, using the public road N71.

One review application (**T05 591A**) includes an application for the amendment of the cultured species onsite to be amended from aquatic plants to the blue mussel (*Mytilus edulis*). Application for a total of 20 longlines. Each double headrope longline is 220 metres in length. Droppers will be suspended 5 metres below the surface. Seed will be sourced from natural spat collection. Each line is secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Sites will be harvested by harvesting vessel with the use of barges and conveyor belts. The site will be accessed by boat from Beal Lough using the public road R572.

Table 2 Proposed site changes in relation to Blue Mussel culture

Site code	Boundary size		Other proposed changes
	Current (ha)	Proposed (ha)	
T05-053N1	10.9	13.12	-
T05-053N6	13.5	17.05	Increase from 36 to 46 longlines with 25 metre spacing between lines. Application for site T05-053N6 to increase the boundary to incorporate site T05-059N2.
T05-058N4	13.2	13.37	Decrease from 17 longlines to 12 longlines. 8 x 220m, 2 x 110 and 2 x 180 longlines.
T05-058N5	3.8	4.63	-
T05-060N1	6.9	7.4	Amendment to line spacing proposed 10-20 metres, previously 24 metres.
T05-060N2	4.0	5.0	Amendment to line spacing proposed 10-20 metres, previously 24 metres.
T05-060N3	3.0	5.03	Increase from 6 to 11 longlines and amendment to line spacing proposed 10-20 metres, previously 24 metres. Site T05-060N3 is increasing the boundary to incorporate site T05-604A.

Site code	Boundary size		Other proposed changes
			
T05-060N4	0.80	0.87	Application to expand the southern boundary of current site and amendment to line spacing proposed 10-20 metres, previously 22 metres.
T05-060N5	33.9	36.09	Application to expand the western boundary of current site. Decrease in number of longlines present proposed 30 longlines, previously 33 longlines and amendment to line spacing proposed 20-30 metres, previously 30 metres.
T05-067N1	0.60	0.67	-
T05-067N2	2.5	4.12	Increase from 7 to 10 longlines. Application to amend site boundary to incorporate site T05-067N3. 
T05-067N4	8.2	8.6	Amendment to line spacing proposed 10-20 metres, previously 24 metres.
T05-067N6	7.6	9.92	-
T05-069N1	14.3	17.2	Amendment to line spacing proposed 24-25 metres, previously 24 metres.
T05-069N4	7.0	8.37	Increase from 20 to 22 longlines and amendment to line spacing proposed 18-19 metres, previously 20 metres.
T05-069N5	5.1	22.7	Increase from 14 to 47 longlines. Amendment to line spacing proposed 21 metres, previously 24 metres. Site T05-069N5 is increasing the boundary to incorporate sites T05-069N8, T05-053N3, T05-053N5 and T05-059N1.

Site code	Boundary size		Other proposed changes
T05-125N1	1.8	2.04	Amendment to line spacing proposed 10-20 metres, previously 24 metres.
T05-214N1	4.1	4.64	Increase from 12 to 16 longlines. Amendment to line spacing proposed 10-20 metres, previously 22 metres.
T05-214N2	1.4	1.65	Amendment to line spacing proposed 10-20 metres, previously 22 metres.

2.2.2 Oyster Culture

The Pacific Oyster (*Magallana gigas)* and the Native Oyster (*Ostrea edulis*) form the basis of oyster aquaculture operation in Bantry Bay.

Two producers (**T05-1010 and T05-641A**) have applied for a new license to culture the Pacific Oyster (*Magallana gigas*) and the Native Oyster (*Ostrea Edulis*). Site **T05-641A** has also applied to culture seaweed as details in section 2.2.3.

T05-1010- Application for a new licence to culture the Pacific Oyster (*Magallana gigas*) and the Native Oyster (*Ostrea Edulis*). Oysters will be cultured using twenty-five litre hexcyl oyster baskets on longlines using a flip farm culture system (Figure 3)[12]. Oyster baskets are fitted with foam floats and are connected via 24 mm polypropylene support line. The use of a flip farm culture system allows baskets to be turned over allowing for 24-hour air exposure, ensuring the removal of predators from baskets. The suspension of baskets on longlines ensure baskets will not come in contact with the sea floor. A total of 13 longlines will be deployed, longlines will be 220m in length with 600 baskets per line. Wild seed will be imported from France and hatchery seed will be sourced from within Ireland, the United Kingdom and France. Each line will be secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Floating marker buoys are placed on each of the four corners of the site to mark the site boundary. The site will be harvested by

[12] FlipFarm_System.pdf

boat with a specified conveyor onboard for processing. The site will be accessed by boat from Bantry harbour through the public road N71.

T05-641A- Application for a new licence to culture the Pacific Oyster (*Magallana gigas*) and the Native Oyster (*Ostrea Edulis*), the applicant has also applied to culture various different species of seaweed as identified in section 2.2.3. Oyster's will be cultured using longlines with attached 25 litre hexcyl hanging baskets using a flip farm culture system (Figure 3). A total of 10 longlines will be deployed, longlines will be 220 metres in length. Oyster baskets are fitted with foam floats and are connected via 24 mm polypropylene support line. Seed will be sourced from Triskell Seafood. Each line is secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Floating marker buoys are placed are each of the four corners of the site to mark the site boundary. The site will be harvested by boat with a hydraulic star wheel and crane, hand harvesting will also be carried out where necessary. The site will be accessed through Bantry Bay port through public road L-8709-0.

Figure 3 Flip farm longline culture system using hexcyl oyster baskets and a purpose-built harvesting platform. Image sourced from BIM, May 2026.

T05-577N1 – Applicant has applied for a renewal and review licence to review culture type to allow for the addition of SEAPA baskets to hang below trestles. The proposed development involves the installation of SEPA baskets on trestle infrastructure to facilitate an increase in biomass production. The baskets will be suspended within the water column beneath the trestles, above the seabed (Figure 4)[13]. Mesh oyster bags will continue to overlay the trestle structure. Application for a total of 318 trestles, a maximum of 12,720 mesh oyster bags and 12,720 oyster baskets (SEAPA or similar). Source of seed will be hatchery seed imported from French hatcheries. Oysters will be harvested by hand, washed graded and bagged for live export. The site will be accessed through the applicant's private land via public road R572.

[13] Adjustable-longline-system_final_compressed.pdf

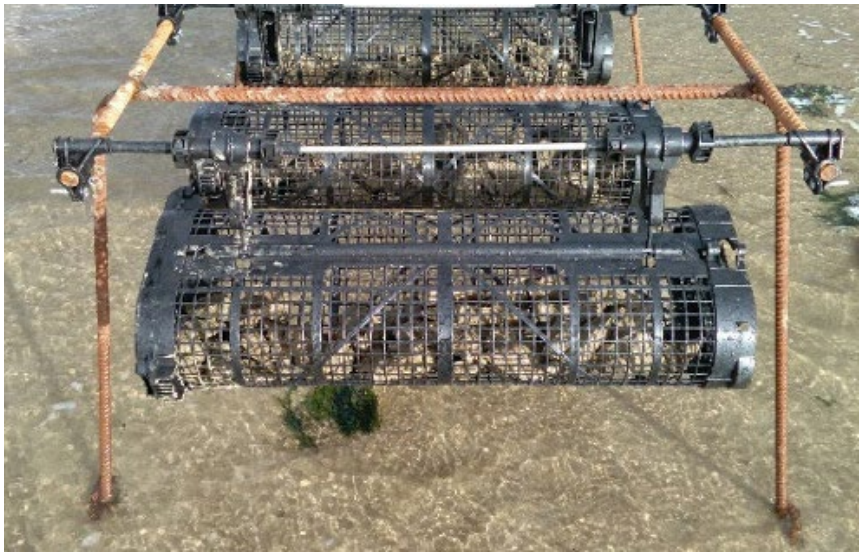


Figure 4 Sepa basket clipped onto modified trestle. Image sourced from BIM, May 2026.

2.2.3 Seaweed – Longline Cultivation

Two sites have applied for a new license (**T05-641A** and **T05-1011**) to cultivate various species of seaweed in Bantry Bay. One site (**T05-574A**) has applied for a renewal license to cultivate various species of seaweed in Bantry Bay. One site (**T05-403A**) has applied for a review of an existing license to amend the species cultured to include various species of seaweed.

Worldwide a wide range of techniques are used to cultivate seaweed depending on the species being farmed, the lifecycle and the biogeographical factors. In general fragments of adult plants, juvenile plants, sporelings or spores are seeded onto either rope or other substrata in hatcheries or nurseries, and the plants are on-grown to maturity at sea. Trials on various native species have taken place in Ireland since the 1990s.

T05-641A- Application for the culture of the native species Alaria *Esculenta*, *Saccharina Latissima*, native red, green and brown seaweeds and non-native species Harpoon weed (*Asparagopsis armata*). This site has also applied for the culture of pacific and native oysters as identified in section 2.2.2 above. Application for a total of 30 seaweed longlines, each longline is 220 metres in length with 10 metre spacing between lines. Lines are deployed approximately 1 metre below the surface. Each line is secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Four floating buoy markers are present; one buoy is located at each boundary of the site. Seed will be sourced from Bantry Marine Research facility. Spores will be sprayed on twine and attached to headropes and droppers for deployment. The site will be harvested by boat with a hydraulic star wheel and crane, The site will be accessed from a pier accessed through the public road L-870-090 and L-4703-59.

T05-1011- Application for the culture of the native species; Irish Wakame (*Alaria esculenta*), sea lettuce (*Ulva lactuca*), dulse (*Palmaria palmata*), sugar kelp (*Saccharina latissima*), North European Kelp (*Laminaria digitata*), serrated wrack (*Fucus serratus*) and non- native species; Harpoon weed (*Asparagopsis armata*). Application for a total of 19 longlines, each line is 110 metres in length with 10 metre spacing between lines. Lines are deployed approximately 1 metre below the surface. Each line is secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Four floating buoy markers are present; one buoy is located at each

boundary of the site. The site proposes an inbuilt St. Andrews Cross and radar reflectors. Seed will be sourced from Bantry marine research station hatchery. A boat operated crane will be used to remove longlines from the bay for harvesting. The site will be harvested with a boat operated crane which will be utilised to remove longings from the water and cleared into one tonne bins. The site will be accessed from a pier accessed through the public road L-870-090 and L-4703-50.

T05-430A- Application for a review and amendment, to update species culture to include the native species; Irish Wakame (*Alaria esculenta*), North European Kelp (*Laminaria digitata*), Dulse (*Palmaria palmata*), Nori (*Porphyra umbilicalis*), Bladder wrack (*Fucus vesiculosus*), Sugar Kelp (*Saccharina latissima*), North European Kelp (*Laminaria hyperborea*), Knotted Wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea Thong (*Himanthalia elongata*) and non-native species; harpoon weed (*Aparagopsis armata)* (Table 3). Application for a total of 10 longlines, longlines will be 220 metres in length. Seed will be source as wild see stock obtained from within a 50 km radius of the farm location. Seaweed will be harvested manually or organically by cutting ropes, and stripping biomass from droplines. The seaweed will then be transferred to shore from immediate processing. The site will be accessed via pier using local roads L-8709-0 and L-4703-59.

T05-574A – Application for a renewal license to culture native macro algae; Irish Wakame (*Alaria esculenta*), sea lettuce (*Ulva lactuca*), dulse (*Palmaria palmata*), sugar kelp (*Saccharina latissima*), North European Kelp (*Laminaria digitata*), serrated wrack (*Fucus serratus*) and non-native species; harpoon weed (*Asparagopsis armata)*. Application for a total of seventeen 110 metre longlines currently in use onsite. Each line is secured to the seabed by an anchor system consisting of polypropylene ropes, trawl ball, anchor chain and concrete anchor blocks. Seed will be sourced from the Bantry marine research station. The site will be harvested using a boat operated crane, harvested seaweed will be then cleared into one tonne bins. The site will be accessed from a pier using the local roads L-8709-0 and L-4703-59.

Table 3 Proposed site changes in relation to seaweed culture.

Site code	Boundary size		Other proposed changes
	Current (ha)	Proposed (ha)	
T05-430A	24.20	24.22	Update species culture to include Irish Wakame (*Alaria esculenta*), North European Kelp (*Laminaria digitata*), Dulse (*Palmaria palmata*), (*Porphyra umbilicalis*), Bladder wrack (*Fucus vesiculosus*), Sugar Kelp (*Saccharina latissima*), North European Kelp (*Laminaria hyperborea*), Knotted Wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea Thong (*Himanthalia elongata*), Harpoon weed (*Aparagopsis armata).*

3 Pressures and Impacts

3.1 Habitats and Species QIs

3.1.1 Physico-Chemical Effects

The introduction of shellfish alters the surrounding environment, both physically and biologically, not only due to the presence of the culture organisms (e.g. increased deposition, disease, shading, fouling, alien species) but also due to the activities associated with the culture mechanisms (e.g. structures

resulting in current alteration, sediment compaction). Unintended effects can include enhanced ecosystem functions, such as the creation of additional three-dimensional habitat from extensive longline structures, which may be utilized by juvenile fish. There are also ecosystem services related to carbon removal through sequestration, as well as the mitigation of nutrient loading and eutrophication. However, in some cases these mitigation benefits may lead to nutrient depletion; if cultivation exceeds the bay's theoretical carrying capacity, cultured organisms can remove nutrients more rapidly than the ecosystem is able to replenish them[14].

Filter feeding organisms, for the most part, feed at the lowest trophic level, usually relying primarily on the ingestion of phytoplankton. The process is extractive in that it does not rely on the input of feedstuffs to produce growth. Suspension feeding bivalves such as mussels and oysters can modify their filtration to account for increasing loads of suspended matter in the water and can increase the production of faeces and pseudofaeces (non-ingested material) which result in the transfer of both organic and inorganic particles to the seafloor. This process is a component of benthic-pelagic coupling. Faeces and pseudofaeces can accumulate on the seafloor beneath aquaculture installations and can alter the local sedimentary habitat type in terms of organic content and particle size which has, in certain circumstances, been shown to alter the resident faunal communities.

Moderate enrichment due to deposition can lead to increased diversity due to increased food availability; however further enrichment can lead to a change in sediment biogeochemistry (e.g. oxygen levels decrease, and sulphide levels increase) which can result in a reduction in species richness and abundance resulting in a community dominated by specialist species. In extreme cases of protracted organic enrichment, anoxic conditions may occur where no fauna survives, and the sediment may become blanketed by bacterial mats. In inshore mussel farms with mild hydrodynamic regimes, impacts from bio-deposits are considered to have localised effects (<40m from source) or none at all[15]

The depth of the longlines and density of the growing seaweed may have an impact on the seabed by means of changing water velocity in and around the site, sediment deposition, change in water turbidity and irradiance. Deposition to the benthos can also include deadfall or broken shell from operational practices (grading, seeding or harvesting) and seaweed biomass from wave action or harvesting processes.

The physical presence of aquaculture structures may reduce water flow and allowing suspended material (silt, clay as well as faeces and pseudo-faeces) to fall out of suspension to the seafloor. The build-up of material will typically occur directly beneath the structures and can result in accumulation of fine, organically rich sediments. These sediments may result in the development of infaunal communities distinct from the surrounding areas.

The accumulation of material beneath oyster trestles is dictated by a number of factors, including:

- Hydrography – low current speeds (or small tidal range) may result in material being deposited directly beneath structures. If tidal height is high and large volumes of water moved through

[14] Aguilar-Manjarrez, Jose & Ross, Lindsay. (2013). Site selection and carrying capacities for inland and coastal aquaculture. 10.13140/RG.2.1.2211.9769

[15] J. Chamberlain, T. F. Fernandes, P. Read, T. D. Nickell, I. M. Davies, Impacts of biodeposits from suspended mussel (*Mytilus edulis* L.) culture on the surrounding surficial sediments., *ICES Journal of Marine Science*, Volume 58, Issue 2, 2001, Pages 411–416, https://doi.org/10.1006/jmsc.2000.1037

the culture area an acceleration of water flow can occur beneath the structures, resulting in a scouring effect or erosion and no accumulation of material.

- Turbidity of water – oysters have a plastic response to increasing suspended matter in the water column with a consequent increase in faecal or pseudo-faecal production. Oysters for example can be cultured in estuarine areas (given their polyhaline tolerance) and as a consequence can be exposed to elevated levels of suspended matter. If currents in the vicinity are generally low, elevated suspended matter can result in increased build-up of material beneath culture structures.
- Density of culture – the density of culture organisms affects the likelihood of accumulation on the seafloor. In addition, if structures are located in close proximity a greater effect can be realised with resultant accumulations. Close proximity may also result in impact on shellfish performance due to competitive interactions.
- Exposure of sites - the degree to which the aquaculture sites are exposed to prevailing weather conditions will also dictate the level of accumulated organic material in the area. As fronts move through culture areas increased wave action will re-suspend and disperse material away from the trestles.

Suspended shellfish and seaweed culture on longlines and intertidal oyster culture on bag and trestles can exert these pressures on the benthos. Additionally, placement of aids to navigation may have the potential to impact the benthic seafloor environment in their placement. Access to extensive culture sites, can also present a potential risk of impact on marine species and communities[16] on foot of compaction of sediment.

3.1.2 Shading

Shading may be an issue as a consequence of the structures associated with intertidal and subtidal suspended shellfish and seaweed culture. Size and length of longline shellfish and seaweed aquaculture may shade species underneath the aquaculture site depending on the depth of the seafloor below the longlines. The trestles and bags are held relatively close to the seabed and as a consequence may shade sensitive species (e.g. seagrasses) found underneath. Suspended subtidal culture of shellfish and seaweeds and intertidal oyster culture on bags and trestles exert these pressures on the benthos.

3.1.3 Non-native Species

Non-native (alien) species may be introduced to environments accidentally or deliberately. Aquaculture is considered a vector for the introduction of alien species. Aquaculture is responsible for the introduction of alien species intended for culture and as a result of unintended transmissions arising from imports or movements of aquaculture stock.

Oyster culture poses a risk in terms of the introduction of the non-native species Pacific oyster (*M. gigas*). Wild recruitment of *M. gigas* has been documented in a number of bays on the west and north coasts of Ireland and the species appear to have become naturalised in these areas (i.e. establishment

[16] Forde, J., F.X. O'Beirn, J.P.J. O'Carroll, A. Patterson, R. Kennedy. 2015. Impact of intertidal oyster trestle cultivation on the Ecological Status of benthic habitats. Marine Pollution Bulletin 95: 223–233

of a breeding population)[17,18,19]. Naturalised population may compete with the native species for space and food. The culture of large volumes of Pacific oysters may increase the risk of successful reproduction and the establishment of 'wild' breeding populations.

The use of locally sourced seed, as well as seed originating from overseas, poses a potential biosecurity risk whereby non-native species may be inadvertently transported alongside cultured stock. These "hitch-hiking" organisms may facilitate the unintended introduction of non-native species into Bantry Bay. There is potential that alien species may spread or proliferate to a degree that can result in environmental damage.

3.1.4 Pathogens

As a generalisation, marine farmed organisms are affected by a range of disease, much as other domesticated agriculture stock. Due to the nature (high density) of the shellfish culture methods there is potential for risk of transmission of disease within the cultured stock, and between the stock and wild populations. All aquaculture activities have the potential to introduce disease risk to the surrounded environment.

3.2 Ornithology QIs

The main pressures which are likely to be exerted on bird species from the proposed extensive aquaculture activities are:

3.2.1 Disturbance

Disturbance on marine birds can be either visual (e.g. lights from machinery on a site, aids to navigation, etc.) or noise (e.g. the sound from tractor or vessel engine). Some species are more sensitive to disturbance than others[20]. Both types of disturbance can cause birds to flush (escape) from the direct area to another area. Flushing causes birds to move from a high-quality foraging habitat to a lower quality foraging habitat potentially resulting in reduced body condition. In addition, the energy expended flying away from a region can also have an effect on body condition. Persistent levels of disturbance can cause population level effects on bird species[21].

3.2.1.1 Exclusion from foraging habitats

Exclusion from foraging habitats occurs when physical structures take up space in areas which birds would otherwise use for foraging. Exclusion affects different birds in different ways. Exclusion from foraging habitats decreases the available foraging habitat and prey for that species. It makes foraging conditions more challenging and can lead to increases in intraspecific competition for resources. If enough habitat is removed this can have population level effects. Suspended shellfish and seaweed culture and intertidal oyster culture on bags and trestles can exert exclusion pressure on marine birds.

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[17] Kochmann J, et al. (2012) Genetic evidence for the uncoupling of local aquaculture activities and a population of an invasive species – a case study of Pacific oysters (*Magallana gigas*). J Heredity 103:661-671

[18] Kochmann, J., et al. (2013). Environmental factors associated with invasion: modelling occurrence data from a coordinated sampling programme for Pacific oysters. Biol Invasions 15, 2265–2279. https://doi.org/10.1007/s10530-013-0452-9

[19] Zwerschke et al (2017). Co-occurrence of native *Ostrea edulis* and non-native *Magallana gigas* revealed by monitoring of intertidal oyster populations. J. Mar. Biol. Assoc. UK doi:10.1017/S0025315417001448

[20] Gittings, T. & O'Donoghue, P.D. (2012). *The effects of intertidal oyster culture on the spatial distribution of waterbirds*. Report prepared for the Marine Institute. Atkins, Cork

[21] Fliessbach, Katharina Leonia, et al. "A ship traffic disturbance vulnerability index for Northwest European seabirds as a tool for marine spatial planning." *Frontiers in Marine Science* 6 (2019): 192.

3.2.2 Prey competition

Direct or indirect competition occurs when prey consumed by a species is targeted by aquaculture (or catches them as bycatch). The subsequent harvesting removes a potential food source, both the mussel itself and potentially other bivalve and polychaete species as bycatch. The main aquaculture that exerts this pressure is suspended mussel culture.

3.2.3 Entanglement or collision

Entanglement or collision has the potential for direct mortality or indirectly through causing injury or debilitation which later results in reduced fitness or mortality. If this effects enough individuals in a short time frame, then there can be significant population decline. Entanglement or collision is not thought to be a major issue for aquaculture however the potential pressure is exerted by suspended shellfish and seaweed culture.

4 Methods for Screening QIs

A key consideration as to whether or not an activity is likely to adversely affect Natura 2000 QIs, is if there is a pathway of connectivity between the QI and the source(s) of potential impacts associated with the activity. The QIs could be at risk of negative effects where a Source-Pathway-Receptor (S-P-R) link exists between the proposed activities and the conservation features of the site, and the risk cannot be dismissed.

The S-P-R model considers potential ecological links between the proposed activity and the qualifying interest of Natura 2000 site. The link can be direct and facilitated by terrestrial, aquatic and airborne transfer of a particular pressure, or the nature and location of the activity may be indirect and interact at a functional level, and impact on behaviour or resource acquisition of a qualifying interest[22].

The screening for the presence of a S-P-R link and any potential adverse effects of the proposed aquaculture activities on the QIs of the Natura will be presented. A screening assessment is an initial evaluation of the existence of S-P-R links between the proposed activities and any likely adverse effects on the QIs. In this assessment, screening of the QIs against the proposed activities is, in the first instance, considered on the basis of direct spatial overlap. Indirect effects are also considered whereby the likely impact of the activity on behaviour or resources required by mobile species (mammals and birds, among others) is considered. Also considered are indirect effects facilitated by hydrological or other potential links (e.g. foraging range).

Aquaculture pressures on a given habitat are related to its vulnerability to the pressures induced by culture activities. Vulnerabilities consider the likely interactions measured by spatial overlap or exposure of the habitat to the equipment, activities or culture organism, combined with the sensitivity of the habitat. To this end, the location and orientation of structures associated with the culture organism, the density of culture organisms, the duration of the culture activity, and the type of activity are all important considerations when considering risk of disturbance to habitat features and species.

The process of determining likely significant effects for bird SCIs is based on impacts/pressures from the proposed activities and the conservation objectives outlined by NPWS. All SPAs with a 15 km range of the proposed activities are considered for screening. The foraging range or breeding site location (depending upon the conservation objectives) of the SCI is considered before determining if there is likely to be spatial overlap with the proposed activities. If there is no spatial overlap, then there is not likely to be an S-R-P pathway for interaction, and the SCI is therefore screened out. If it is deemed that

[22] OPR, 2021. Appropriate Assessment Screening for Development Management. March 2021; Office of Planning Regulator.

there is spatial overlap, then the pressures exerted by the proposed activities are considered e.g. disturbance, exclusion from foraging grounds. If these pressures are not deemed to interact with the QI and associated conservation objectives, then the QI can be screened out. If it is deemed likely to be interaction between the pressures and the SCI, the population trends at the site are considered. If there is evidence that the population has declined or if no such data is available, then the SCI is screened in. Where there is no evidence of population decline then consideration is given to the species resilience to the pressure based on scientific literature. If there is sufficient evidence that the species has the ability to resist the pressure to the extent that likely significant effects can be ruled out, then that SCI is screened out. If no such evidence is available, it is screened in. At all stages a precautionary approach is used in the absence of reliable data.

While the guide value of 15 km range can inform habitats and species with defined ranges, it may not apply effectively to migratory or mobile species or to those with large foraging ranges (e.g. birds and mammals). Such species may interact with the proposed activity as a result of the structures along their migratory route or impacting on their foraging behaviour. This report has therefore extended this screening to a defined list of 24 bird species and 4 mammal species with large foraging ranges, based on the Annex II species list and from the literature[23,24]. The Black Guillemot (*Cepphys grylle*) is not an SCI for any SPA; it is a species listed in the NPWS Site Synopsis reports and is assessed if recorded at an SPA within its foraging range. Bird species have been identified based on their foraging ranges. The Bottlenose Dolphin (*Tursiops truncatus*) [1349] and Harbour Porpoise (*Phocoena phocoena*) [1351] are considered for screening as they are a wide-ranging species but for which a specific foraging range in Ireland could not be established[25]. The Grey Seal (*Halichoerus grypus*) [1364] is considered as its foraging range extends up to 448 km. Harbour Seal (*Phoca vitulina*) [1365] is considered as its foraging range extends up to 273 km[26], both of these foraging ranges are well beyond the boundary of their designated Natura sites.

The following is the list of long-ranging species that are considered in this screening:

Mammals

- Bottlenose Dolphin (*Tursiops truncatus*) [1349]
- Harbour Porpoise (*Phocoena phocoena*) [1351]
- Grey Seal (*Halichoerus grypus*) [1364]
- Harbour Seal (*Phoca vitulina*) [1365]

Birds

- Arctic tern (*Sterna paradisaea*) [A194]
- Atlantic Puffin (*Fratercula arctica*) [A204]
- Black Guillemot (*Cepphys grylle*)
- Black-headed Gull (*Larus ridibundus*) [A197]

[23] Thaxter, C.B., Lascelles, B., Sugar, K., Cook, A.S.C.P., Roos, S., Bolton, M., Langston, R.H.W. and Burton, N.H.K Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas (2012). Biological Conservation 156: 53-61.

[24] Woodward, I., Thaxter, C.B., Owen, E. & Cook, A.S.C.P. 2019. Desk-based revision of seabird foraging ranges used for HRA screening, Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate, ISBN 978-1-912642-12-0.

[25] IAMMWG. 2023. Review of Management Unit boundaries for cetaceans in UK waters (2023). JNCC Report 734, JNCC, Peterborough, ISSN 0963-8091. https://hub.jncc.gov.uk/assets/b48b8332-349f-4358-b080-b4506384f4f7

[26] Carter MID, Boehme L, Cronin MA, Duck CD, Grecian WJ, Hastie GD, Jessopp M, Matthiopoulos J, McConnell BJ, Miller DL, Morris CD, Moss SEW, Thompson D, Thompson PM and Russell DJF (2022) Sympatric Seals, Satellite Tracking and Protected Areas: Habitat-Based Distribution Estimates for Conservation and Management. Front. Mar. Sci. 9:875869. doi: 10.3389/fmars.2022.875869

- Black-legged Kittiwake (*Rissa tridactyla*) [A188]
- Common Gull (*Larus canus*) [A182]
- Common Tern (*Sterna hirundo*) [A193]
- Cormorant (*Phalacrocorax carbo*) [A683]
- Eider (*Somateria mollissima*) [A063]
- European Storm-petrel (*Hydrobates pelagicus*) [A014]
- Great Black-backed Gull (*Larus marinus*) [A187]
- Guillemot (*Uria aalge*) [A887]
- Herring Gull (*Larus argentatus*) [A184]
- Leach's Storm Petrel (*Hydrobates leucorhous*) [A854]
- Lesser Black-backed Gull (*Larus fuscus*) [A489]
- Manx Shearwater (*Puffinus puffinus*) [A013]
- Mediterranean Gull (*Larus melanocephalus*) [A176]
- Northern Fulmar (*Fulmarus glacialis*) [A009]
- Northern Gannet (*Morus bassanus*) [A016]
- Razorbill (*Alca torda*) [A200]
- Red-throated Diver (*Gavia stellata*) [A001]
- Roseate Tern (*Sterna dougallii*) [A192]
- Sandwich Tern (*Thalasseus sandvicensis*) [A863]
- Shag (*Gulosus aristotelis*) [AB03]

Where there are spatial overlap and reasonable potential for likely significant effects on QIs to arise, a Stage 2 Appropriate Assessment is warranted. In the instance where there is no spatial overlap between an activity and a QI, and no likely direct or indirect interactions apparent, then potential significant effects may be screened out. If there is marginal spatial overlap but no reasonable potential for likely significant effects on QIs to arise then effects may also be screened out.

5 Appropriate Assessment Screening

5.1 Identification of Relevant Natura 2000 Sites and QIs

A key consideration as to whether an activity is likely to significantly affect Natura 2000 QIs is if there is a pathway of connectivity between the QI and the sources of potential impacts associated with the activity. The proposed licenced sites overlap with Bantry Bay and is within a guide distance of 15 km from the boundaries of a number of other Natura sites (Table 4, Figure 5 and Figure 6).

Table 4 SACs and SPAs within the zone of influence (15 km).

Site Code	Site Name	Area (Ha)	Distance (Km)	URL
SACs				
000090	Glengarriff Harbour and Woodland SAC	1,295.18	0.00	Link
000102	Sheep's Head SAC	3,149.68	0.06	Link
000093	Caha Mountains SAC	6,881.61	0.80	Link
002189	Farranamanagh Lough SAC	27.30	3.46	Link
002281	Reen Point Shingle SAC	7.01	3.76	Link
001879	Glanmore Bog SAC	1,137.36	4.10	Link
001873	Derryclogher (Knockboy) Bog SAC	1,712.16	4.88	Link
002280	Dunbeacon Shingle SAC	43.02	4.89	Link
002158	Kenmare River SAC	43,498.86	7.31	Link
001881	Maulagowna Bog SAC	424.86	8.95	Link
001342	Cloonee and Inchiquin Loughs, Uragh Wood SAC	1,150.82	9.39	Link
001043	Cleanderry Wood SAC	60.61	10.06	Link
001040	Barley Cove to Ballyrisode Point SAC	796.92	11.87	Link
000101	Roaringwater Bay and Islands SAC	14,285.34	12.26	Link
001371	Mucksna Wood SAC	14.07	14.17	Link
002315	Glanlough Woods SAC	16.55	14.93	Link
SPAs				
004155	Beara Peninsula SPA	2,612.08	1.63	Link
004156	Sheep's Head to Toe Head SPA	2,500.11	4.92	Link

The characteristic features of these sites are identified, where a preliminary screening is carried out on the likely interaction with aquaculture activities based primarily upon the likelihood of spatial overlap for conservation objectives within 15km of SACs and SPAs. Additionally, the listed long ranging species with the proposed activities within foraging range, are considered. The screening assessment of aquaculture in relation to the Conservation Objectives for the relevant SAC is based on the objectives and supporting documentation. The spatial data for conservation features was provided by NPWS.

5.1.1 SACs

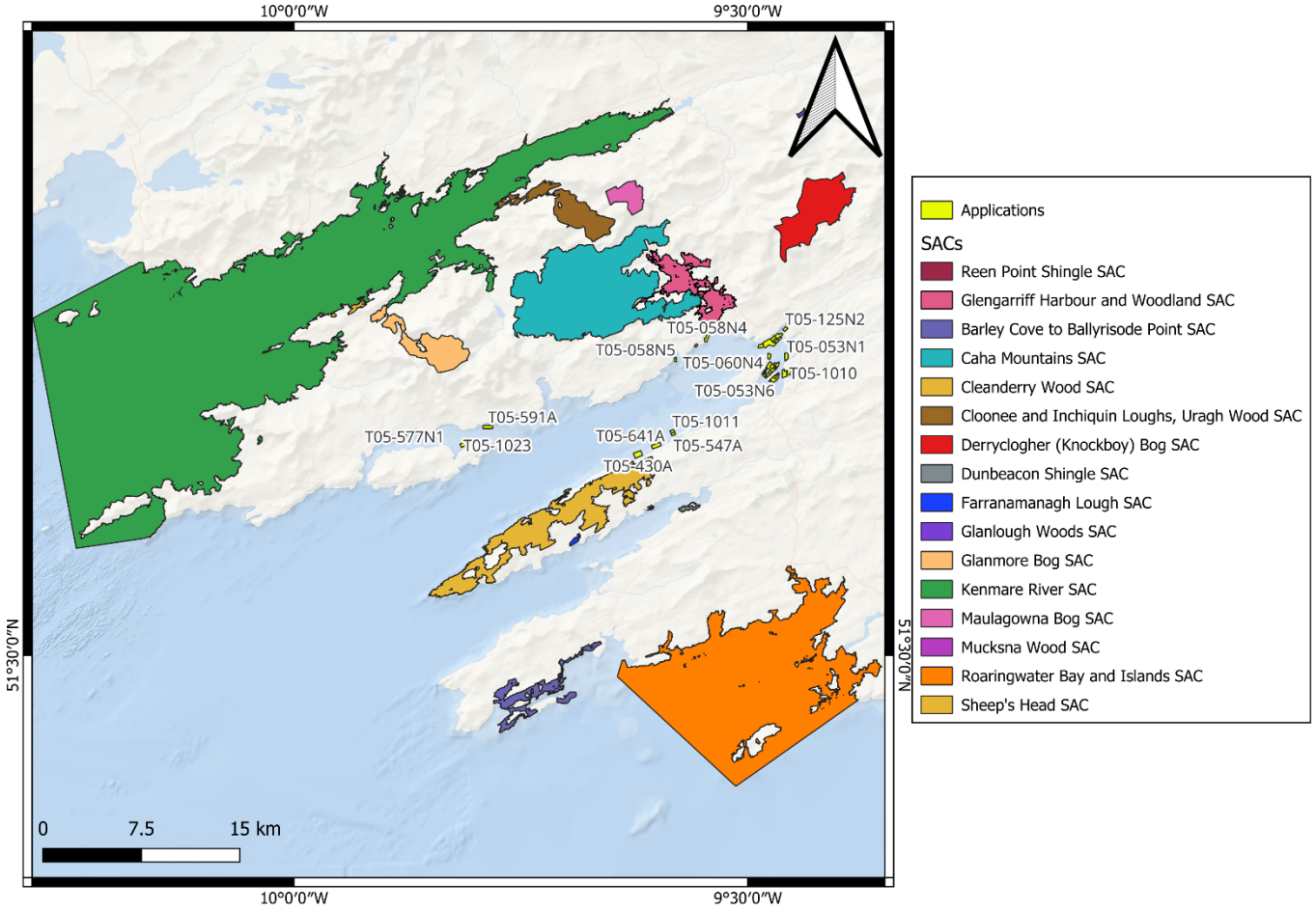

Figure 5 Special Areas of Conservation (SACs) adjacent to the proposed aquaculture sites in Bantry Bay.

5.1.1.1 *Glengarriff Harbour and Woodland SAC* [000090]

Located to the south and north-west of Glengarriff Village in west Cork, this site consists of a glacial valley opening out into a sheltered bay with rocky islets. The valley contains old oak woodland and alluvial forest. The underlying rock of the area is Old Red Sandstone, with the soil varying from acid brown earths to alluvial brown earths and peat. Overall, the site supports a diversity of fauna. The rocky islets in the harbour support the largest colony of Common Seals in the south-west of Ireland (maximum count of 151 in the all-Ireland survey of 2003). This legally protected species is listed on Annex II of the E.U. Habitats Directive. Lesser Horseshoe Bat, also an Annex II species, were formerly recorded in high numbers in Glengarriff Castle (e.g. 300+ recorded during summer 1985, 268 in winter 1989). However, numbers decreased at the Castle from the late 1990's onwards. Since then, summer roosts within the SAC boundary have been found in three buildings. The highest combined counts for the three summer sites were taken in July 2002 with a total of 228 bats. Bats have also been confirmed hibernating in one of the buildings and have used two purpose-built hibernacula. A total of 114 hibernating bats were counted in winter 2002/2003. This site is of international importance for both summer roosting and hibernating Lesser Horseshoe Bats. Given the combination of winter, summer and foraging sites, the site is one of the most important for the species in the south-west. An important roost of approximately 100 Long-eared Bats (*Plecotus auritus*) is also present within the site. Both bat species are listed on Annex IV of the E.U. Habitats Directive. The woods, and the river flowing through

it, are home to a range of other mammal species, including Otter (listed in Annex II of the E.U. Habitats Directive), Stoat, Red Squirrel, Badger and Sika Deer. Bird life is also diverse, with species such as Sparrowhawk, Peregrine, Long-eared Owl, Woodcock, Heron, Jay, Dipper, Willow Warbler, Chiffchaff and Wood Pigeon.

5.1.1.2 *Sheep's Head SAC* [000102]

Sheep's Head in Co. Cork is a narrow peninsula with a north-east to south-west orientation, bounded on the northern side by Bantry Bay and on the southern side by Dunmanus Bay. The site extends from near Ahakista in the east, to the Sheep's Head lighthouse in the west. The rocky parts of the peninsula are covered by dry heath, where Western Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*) and some Bell Heather (*Erica cinerea*) form a compact canopy moulded by the wind. Where water accumulates, especially in the depressions between the ridges of sandstone, peat develops more thickly and here wet heath or even small pockets of blanket bog are found. These areas are characterised by the growth of mosses, especially bog mosses (*Sphagnum spp*.). The wet heath often merges into fen or swamp vegetation in the vicinity of lakes. Some small patches of fen peat and hillside flush occur throughout the site. Small stands of deciduous woodland occur near the disused copper mine in Killeen North townland. The site is of note for holding a population of Kerry Slug (*Geomalacus maculosus*). Sheep's Head is an important ornithological site and much of it is a Special Protection Area (SPA). It supports an important population of Chough. Black Guillemot nest on the coast and the population found on Sheep's Head and the nearby Mizen Head Peninsula is of national importance; several other seabird species also use the site, but in small numbers, including Fulmar, Shag, Great Black-backed Gull and Herring Gull.

5.1.1.3 *Caha Mountains SAC* [000093]

The Caha Mountains consist of Old Red Sandstone and form part of the dramatic backbone of the Beara Peninsula, between Turner's Rock (on the Glengarriff- Kenmare Road) and the Healy Pass. Within the site there are a series of peaks and ridges up to 630 m high, radiating out from Caha Mountain itself. The southerly directed ridge forms a broad boggy plateau studded with small lakes - at about 420 m. The area also features glacial valleys and corries, such as the one within which Barley Lake occurs. Generally, the terrain is rocky with many of the slopes featuring rock faces interspersed with grassy shelves. Substantial cliffs are present in the north- western half of the site. The best examples of blanket bog in the site occur on the Glenlough plateau and in the saddle to the east of Knockastumpa. Plant species of alpine heath, and the rocky slopes and screes, are associated with the summits. Wet heath is frequent at the site and occurs as a mosaic, often in association with blanket bog and upland grassland. The upland grassland is dominated by Purple Moor-grass (*Molinia caerulea*) but other grasses present include Mat Grass (*Nardus stricta*), *Festuca* spp. and *Agrostis* spp. Lakes are frequent throughout the site and especially on the Glenlough Mountain plateau. Most of the small lakes which occur within the bog and wet heath habitats are dystrophic in character. These have peat bottoms and often peat-stained water. The site contains Killarney Fern (*Trichomanes speciosum*). It also supports the only known population of Recurved Sandwort within Ireland and Britain. Kerry Slug (*Geomalacus maculosus*) and Otter, species listed on Annex II of the E.U. Habitats Directive, are found within the site. Other important species present within the site include the Irish Hare, Common Lizard and Frog. Brown Trout occurs within some of the lakes of the plateau. A number of bird species listed in Annex I of the E.U. Birds Directive occur: Peregrine Falcon, Hen Harrier and Chough. The Peregrine breeds within the site, while the others probably breed.

5.1.1.4 *Farranamanagh Lough SAC* [002189]

Farranamanagh Lough is a small, shallow (2 m), sedimentary lagoon situated on the south side of the Sheep's Head peninsula in west Co. Cork. This lagoon is in an almost completely natural condition lying behind a stony barrier through which runs an apparently permanent outlet. Freshwater streams enter from the north and seawater enters at spring tides through the outlet, and also by percolation and overtopping of the barrier during storms. The shingle barrier supports a good example of the community 'perennial vegetation of stony banks'. Saltmarsh vegetation fringes the eastern shore of the lagoon, while freshwater marsh vegetation fringes the northern part of the lagoon. The Kerry Slug (*Geomalacus maculosus*) has been recorded within the site.

5.1.1.5 *Reen Point Shingle SAC* [002281]

Reen Point Shingle SAC is located in Dunmanus Bay, 4 km north-west of Durrus village, in Reencappul townland, Co. Cork. The site covers a relatively small area and consists of a headland shaped like a hammer. The 'handle' of the hammer shape consists of two vegetated shingle bars, one at each side, with a marshy/lagoonal area in between. At Reen Point Shingle SAC the shingle bar or stony bank habitat on the eastern side of the headland has Sea Mayweed (*Matricaria maritima*), Ribwort Plantain (*Plantago lanceolata*) and Common Ragwort (*Senecio jacobaea*). The shingle vegetation on the western side is more diverse and supports species such as Sea Beet (*Beta vulgaris subsp. maritima*), Common Scurvygrass (*Cochlearia officinalis*), Red Fescue (*Festuca rubra*), Sea Mayweed, Rock Samphire (*Crithmum maritimum*), Ribwort Plantain, sea- lavender (*Limonium sp*.) and lichens. The lagoon, which is fringed with Common Reed (*Phragmites australis*) and some Common Club-rush (*Scirpus lacustris*), provides habitat for several bird species including Curlew, Cormorant and Mute Swan.

5.1.1.6 *Glanmore Bog SAC* [001879]

Glanmore Bog is situated 3 km north-west of Hungry Hill, Co. Cork and 8 km south- west of the village of Lauragh, Co. Kerry. One of the most important habitat areas within Glanmore Bog SAC is a small hanging valley bog situated between the meanders of a mountain stream. Wet heath is the dominant habitat at the site and often occurs in association with upland grassland, exposed rock, bog and dry heath. Glenbeg Lough is an example of an oligotrophic (nutrient-poor) lake. The steep slopes surrounding the lough support a mosaic of heath, upland grassland, siliceous rocks and gully streams. The two main rivers within the site, the Ownagappul and the Glanmore, have examples of floating river vegetation, a habitat that is listed on Annex I of the E.U. Habitats Directive. The Ownagappul River runs from Glenbeg Lough to the sea at Cappul Bridge. Killarney Fern (*Trichomanes speciosum*), an Annex II species under the E.U. Habitats Directive, and a legally protected species under the Flora (Protection) Order, 1999, occurs within the site. The site includes a population of Freshwater Pearl Mussel. Chough, a species listed under Annex I of the E.U. Birds Directive, is regularly found within the site and two pairs probably breed. Other birds noted are Dipper, Stonechat, Snipe and Raven.

5.1.1.7 *Derryclogher (Knockboy) Bog SAC* [001873]

Derryclogher (Knockboy) Bog SAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive. The site has been designated as a SAC due to the presence of Blanket Bog (active), a priority habitat listed in Annex I of the EU Habitats Directive. Derryclogher (Knockboy) Bog SAC has been designated as a candidate Special Area of Conservation under the EU Habitats Directive. The site has been designated as a SAC due to the presence of Blanket Bog (active), a priority

habitat listed in Annex I of the EU Habitats Directive. There are two main areas of active blanket bog within the site, to the south of Curramore Lough and to the north-east of Knockboy summit. Wet and dry heath covers the majority of the site where the slope is steeper than 3 degrees. These areas are dominated by well-grazed Heather and Cross-leaved Heath, with Bilberry, Sheep's Fescue, Tormentil and Heath Bedstraw. The site supports breeding pairs of three Annex I bird species, Peregrine Falcon, Merlin and Chough. Other notable species include Red Grouse, Snipe and Woodcock. The Annex II species Otter and Kerry Slug and the internationally important Red Data Book Species Irish Hare are present on the site. The Red Data Book species Arctic Char may occur in Lough Nambrackderg.

5.1.1.8 Dunbeacon Shingle SAC [002280]

This coastal site is located at the head of Dunmanus Bay in Dunbeacon townland, 5 km south-west of Durrus village, Co. Cork. The site comprises a diverse and complex mosaic of habitat types in a relatively small area. As well as supporting an example of 'perennial vegetation of stony banks', Dunbeacon Shingle SAC also contains areas of saltmarsh, rush pasture, lake, freshwater marsh, tidal estuarine creeks, scrub woodland, Alder (*Alnus glutinosa*) and willow (*Salix spp*.) dominated wet woodland, wet heath and dry heath. The site provides useful feeding habitat for several bird species including the uncommon Little Egret, Curlew, Snipe, Oystercatcher, Cormorant and Mallard.

5.1.1.9 *Kenmare River SAC* [002158]

Kenmare River SAC in Co. Kerry, is a long, narrow, south-west facing bay. It is a deep, drowned glacial valley and the bedrock is mainly Old Red Sandstone which forms reefs along the middle of the bay throughout its length. Exposure to prevailing winds and swells at the mouth diminishes towards the head of the bay. Numerous islands and inlets along the length of the bay provide further areas of additional shelter in which a variety of habitats and unusual communities occur. In the more exposed areas within Kenmare River SAC the sublittoral sediment is composed mainly of coarse shelly sand and gravel forming small dunes frequently with sparse bivalves, including *Lutraria sp*. In sheltered areas the muddy sand has communities characterised by burrowing megafauna. Beaches in outer parts of Kenmare River SAC are composed of coarse, mobile sand and have sand hoppers in the high shore and polychaete worms in the low shore. More sheltered coves, sometimes backed by sand dunes, have sandhoppers in the upper shore, Lugworm (*Arenicola marina*) in the mid shore and Razor Shell (*Ensis arcuatus*) and the burrowing sea-urchin *Echinocardium cordatum* in the lower shore. Midway along the south coast of Kenmare River SAC, a series of sea caves stretch back into the cliff. They typically support encrusting sponges, ascidians and bryozoans. Within the Derrynane Bay area on the south side of the Iveragh Peninsula there are good examples of a number of habitats listed on Annex I of the E.U. Habitats Directive including dry heath, fixed dunes, Marram dunes, sea cliffs and salt meadows (both Atlantic and Mediterranean types). Salt meadows are well distributed in sheltered areas from Derrynane Bay to Kilmakilloge Harbour. Heath also occurs along the extensive coastal strips within the site, from sea level to the higher slopes. Dry heath is especially well represented, and occurs in association with wet heath, coastal grassland and exposed rock. Sea cliffs occur in places along the length of the site and are often well vegetated. Common/Arctic Tern (95+ pairs in 2008) have been recorded breeding on rocky islands in Derrynane Bay and on other islands within the site including Eyeries Island, Spanish Island and Brennel Island.

5.1.1.10 Maulagowna Bog SAC [001881]

Maulagowna Bog is located in Co. Kerry on the north-western slopes of the Caha Mountains, overlooking the Kenmare River inlet. The underlying geology of the area is Old Red Sandstone. The site consists of a blanket bog located on a flat ridge north of Knocknagorravela mountain, and a corrie lake, Cummer Lough, located in an amphitheatre of high cliffs. The blanket bog is largely intact. The surface is fairly uniform and there are no pools. The vegetation is dominated by Purple Moor-grass (Molinia caerulea), Heather (*Calluna vulgaris*) and Deergrass (*Scirpus cespitosus*). The Purple Moor-grass does not form large tussocks. A number of hummocks of the moss *Leucobryum glaucum* occur, and where the vegetation is more open, *Campylopus atrovirens* is found. Some bog mosses (*Sphagnum spp*.) occur. Cummer Lough is an oligotrophic lake, also a habitat type which is listed on Annex I of the E.U. Habitats Directive. The lake is at an altitude of 140-150 m, while the cliffs to the south and west of the lake rise to over 350 m. The lake supports a typical flora of Pipewort (*Eriocaulon aquaticum*), Shoreweed (*Littorella uniflora*), Water Lobelia (*Lobelia dortmanna*) and Bulbous Rush (*Juncus bulbosus*). The outflow stream from the lake is fast flowing with a series of small waterfalls.

5.1.1.11 *Cloonee and Inchiquin Loughs, Uragh Wood SAC* [001342]

Cloonee and Inchiquin Loughs, Uragh Wood SAC is located in a large U-shaped glacial valley on the northern side of the Caha Mountain range, to the west of Kenmare, Co. Kerry. It encompasses a series of four large lakes, some smaller mountain lakes, several inter-connecting rivers and streams, and the oak woodlands at Uragh Wood. The Cloonee Lough system comprises three lowland oligotrophic lakes. The lowest of these is situated close to the Kenmare River estuary and is connected to the middle and upper lakes via the Beal-na-Shannin River. The upper Cloonee Lough is linked by the Ameen River to Inchiquin Lough. The water of the lakes at this site is acidic. The site is notable for the presence of the rare, aquatic plant species, Slender Naiad (*Najas flexilis*). Uragh Wood is a fine example of an oceanic, semi-natural oak woodland. This site is of international importance for its hyper-oceanic woodland bryophytes. Uragh Wood supports a diverse fauna and is especially rich in invertebrates.

5.1.1.12 Cleanderry Wood SAC [001043]

Cleanderry Wood is situated along the south side of the Kenmare River inlet, 10 km north of Castletownbere in Co. Cork. The site occurs on a steep slope directly above the coastline and contains is a small oak (*Quercus sp.)* woodland. The wood lies in a sheltered hollow facing north-west and is crossed by several cascading streams. The site also includes Derryvegal Lough Upper and its outlet stream. In Cleanderry Wood Sessile Oak (*Quercus petraea*) and Hazel (*Corylus avellana*) are the dominant trees, with much Holly (*Ilex aquifolium*) and birch (*Betula sp*.). In general, the ground vegetation is very well developed because there is little grazing pressure. Bilberry (*Vaccinium myrtillus*), Ivy (*Hedera helix*) and Honeysuckle (*Lonicera periclymenum*) are frequent, with Velvet Bent (*Agrostis canina*), Common Cow-wheat (*Melampyrum pratense*), Hard-fern (*Blechnum spicant*) and Hay-scented Buckler-fern (*Dryopteris aemula*). The site supports a population of the rare Killarney Fern (*Trichomanes speciosum*).

5.1.1.13 *Barley Cove to Ballyrisode Point SAC* [001040]

This site is situated on the Mizen Head peninsula in the extreme south-west of Co. Cork. It straddles a 10 km stretch of coastline from the Barley Cove inlet to Ballyrisode Point at Toormore Bay. The rock type is Old Red Sandstone, and this displays a north-east/south-west folding which is especially visible at Crookhaven and Brow Head. The dune system at Barley Cove is of moderate size and relatively intact. It grades from an outer ridge of white Marram (*Ammophila arenaria*) dunes, through fixed dune hills and into an extensive area of dune grassland. A characteristic flora is displayed, with species such as Lady's Bedstraw (*Galium verum*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Wild Pansy (*Viola tricolor subsp. curtisii*) and Red Fescue (*Festuca rubra*). The moss and lichen component is well developed in places and includes *Tortula ruraliformis* and *Peltigera canina.* The rare bryophyte Petalwort (*Petalophyllum ralfsii*), which is listed on Annex II of the E.U. Habitats Directive, has been recorded in this dune system. Long-term erosion by the tidal river has reduced the size of the dune system, though sand has been deposited elsewhere in the area. The site is of notable ornithological importance for Chough (listed on Annex I of E.U. Birds Directive), with 9 breeding pairs in 1992. In addition to nesting, substantial numbers of Choughs utilise the heath and sandy habitats for feeding and socialising. Lissagriffin Lake is of some local importance for wintering waterfowl, including Whooper Swans (up to 16 at times) and Mute Swans (up to 40). Small numbers of seabirds breed on the cliffs, including Fulmar (41 pairs), Lesser Black-backed Gull (9 pairs), Herring Gull (133 pairs), Shag (39 pairs), and Black Guillemot (1-5 pairs) (all counts in 1985).

5.1.1.14 Roaringwater Bay and Islands SAC [000101]

Roaringwater Bay, Co. Cork, is a wide, shallow bay located on the south-west coast of Ireland. The SAC includes the immediate coastline on the mainland from Long Island to Baltimore, together with the whole bay and most of the islands. Some of the larger islands included are Sherkin Island, Cape Clear Island, Heir Island, Horse Island, Castle Island and Long Island. The bay itself has a wide variety of reef and sediment habitats, subject to a range of wave exposures and tidal currents. Within the habitat 'large shallow inlets and bays' are found the following communities: muddy sand with bivalves and polychaetes complex, mixed sediment community complex, and shallow sand-mud community complex. Also found are marine caves and reefs. The terrestrial habitats at this site are also of conservation interest and include good examples of two habitats: dry heath and sea cliffs. Otter, Grey Seal and Harbour Porpoise occur within the site. Seabirds breed on some of the islands in the bay.

5.1.1.15 Mucksna Wood SAC [001371]

Mucksna Wood is located south of Kenmare on the shores of the Kenmare River, Co. Kerry. It is a well established mixed woodland, containing both native and exotic tree species, with some regeneration occurring. The soil is quite rich and probably of glacial drift origin. The northern margin of the woodland borders onto a narrow fringe of saltmarsh beside the Kenmare River. At Muchsna Wood, approximately 40-50% of the woodland area is dominated by oak. This is mostly Pedunculate Oak (*Quercus robur*), but there is also some Sessile Oak (*Q. petraea*). There is a large variety of other tree species present also, including Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), fir (Abies sp.) and Scots Pine (*Pinus sylvestris*). Occasional elm (*Ulmus sp.*) and Hornbeam (*Carpinus betulus*) are also found. Some of the oaks and conifers are very large (up to 35 m tall). Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*) and Hawthorn (*Crataegus monogyna*) are common in the understorey.

5.1.1.16 Glanlough Woods SAC [002315]

Glanlough Woods is situated 4 km south of Kilgarvan, Co. Kerry. The site consists of a two storey, derelict, stone farmhouse and its adjacent out-buildings. It contains an important maternity roost of the Lesser Horseshoe Bat. At Glanlough Woods SAC the bats roost in the ceiling and roof apex of the old farmhouse. Approximately 150 bats were counted using this breeding site in July 2000, making it a site of international importance.

5.1.2 SPAs

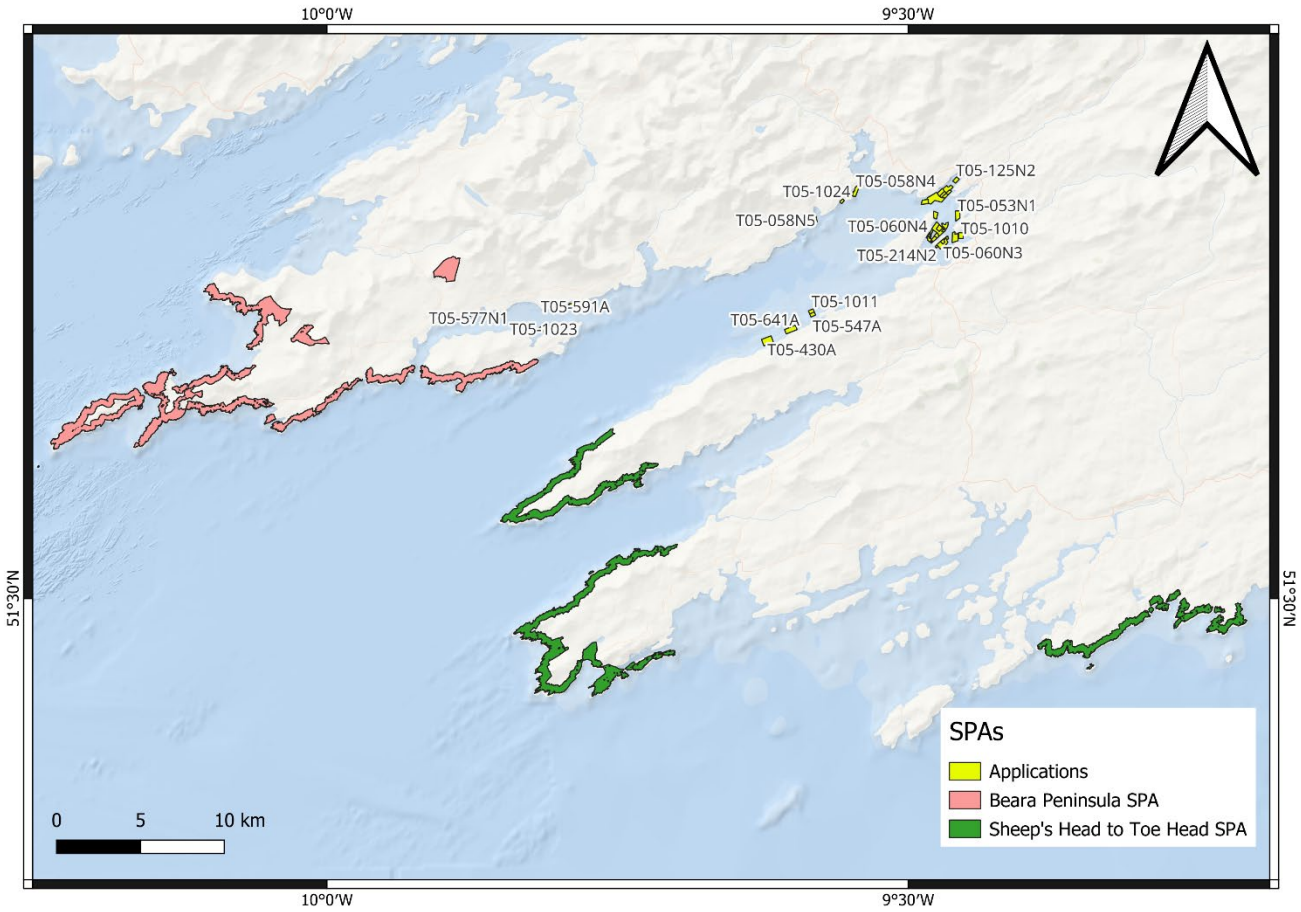

Figure 6 Special Protection Areas (SPAs) adjacent to the proposed aquaculture sites in Bantry Bay.

5.1.2.1 Beara Peninsula SPA [004155]

The Beara Peninsula SPA is a coastal site situated on the west coast of Co. Cork, south-west of the town of Kenmare. It encompasses the high coast and sea cliff sections of the western end of the peninsula from Reenmore Point/Cod's Head in the north, around to the end of Dursey Island in the west, and as far east as Bear Island in the south. The site includes the sea cliffs, the land adjacent to the cliff edge and several upland areas further inland of the coast about Eagle Hill, Knockgour, Allihies and Firkeel. Vegetated sea cliffs dominate the site. The cliff-tops support heath or coastal grassland. Apart from the sea cliffs themselves, the site includes areas of dry heath, wet heath, blanket bog, freshwater marsh, upland acid grassland, dense Bracken (*Pteridium aquilinum*), scrub, semi-improved and improved pasture grassland, dune grassland, exposed rock, streams, shingle, bedrock shores and islets. The site supports an internationally important population of breeding Chough. The site also holds a nationally important population of Fulmar (575 pairs), and populations of other breeding seabirds including: Shag

(12 pairs), Herring Gull (20 pairs), Lesser Black-backed Gull (4 pairs), Razorbill (5 pairs) and Black Guillemot (87 individuals in 1999) – all seabird data from 2000. The site is also used by Peregrine (4 pairs in 2002).

5.1.2.2 Sheep's Head to Toe Head SPA [004156]

The Sheep's Head to Toe Head SPA is large site situated on the south-west coast of Co. Cork. It encompasses the high coast and sea cliffs from Sheep's Head to Mizen Head, Brow Head and Crookhaven in the west and from Baltimore to Tragumna Bay, Gokane Point and the Toe Head peninsula in the east. The site includes the sea cliffs, the land adjacent to the cliff edge, an area further inland to the east of Dunlough Bay, and also areas of sand dunes at Barley Cove and Crookhaven. The Sheep's Head peninsula is the narrowest of the large peninsulas in the south-west of the county. Tall cliffs, c. 100 m high, occur at its end and hills rise up from much of the coast; pastures are concentrated along the southern side. The site supports an internationally important population of breeding Chough.

5.1.3 Conservation Interests of SCIs

Listed Species of Conservation Interest, the objectives and targets of the SCI species for Sheep's Head to Toe Head SPA and Beara Peninsula SPA are listed in Table 5.

Table 5 Species of Conservation Interest, their objectives and targets within Beara Peninsula and Sheep's Head to Toe Head SPA.

Feature	Objective	Target
Beara Peninsula SPA		
Fulmar (*Fulmarus glacialis*) [A009]	To maintain favourable conservation condition	• No significant decline in breeding population size. • Productivity rate sufficient to maintain population. • No significant change in distribution coverage. • No significant decline in prey biomass available. • Disturbance occurs at levels that do not significantly impact on fulmar at the breeding site. • Disturbance occurs at levels that do not significantly impact on breeding fulmar. • No significant increase in barriers to connectivity.
Chough (*Pyrrhocorax pyrrhocorax*) [A346]	To maintain favourable conservation condition	• Maintain numbers at or above 35 confirmed and probable breeding pairs. • Population trend maintained or increasing. • Productivity rate sufficient to maintain population. • Maintain sufficient quality and quantity of coastal grassland and other relevant habitats to support the population of chough at the level of breeding pairs referred to in the attributes above. • Maintain adequate levels of prey biomass (including preferred invertebrate prey items such as leatherjackets, dung beetles etc.). • The distribution of preferred roosts is maintained. • Disturbance occurs at levels that does not significantly impact upon chough in the SPA.
Sheep's Head to Toe Head SPA		
Peregrine (*Falco peregrinus*) [A103]	To maintain favourable conservation condition	• Breeding population is stable/increasing. • Productivity rate is sufficient to maintain the population size target. • Sufficient availability of suitable nesting sites throughout the SPA to maintain the population.

		• Sufficient number of locations, area of suitable habitat, and available prey biomass (i.e. small medium-sized birds, mammals) to support the population target. • Disturbance occurs at levels that do not significantly impact upon the breeding population.
Chough (*Pyrrhocorax pyrrhocorax*) [A346]	To restore favourable conservation condition	• No significant decline in population size. • Population trend stable or increasing. • Productivity rate is sufficient to maintain population size target. • Maintain sufficient quality and quantity of coastal grassland and other relevant habitats to support the population of Chough at the level of breeding pairs referred to in the attribute above. • Maintain adequate levels of prey biomass (including preferred invertebrate prey items such as leatherjackets, dung beetles, etc.). • The distribution of preferred roosts is maintained. • Disturbance occurs at levels that do not significantly impact upon Chough in the SPA.

5.2 Screening of Adjacent Natura 2000 Sites

The screening of adjacent Natura sites is carried out to determine if the proposed activity is likely to impact on the QIs of nearby sites. It is primarily based upon indirect links between the proposed activity and those QIs. Guidance has indicated that a screening exercise might consider the likely interactions between the QIs of Natura 2000 sites within a standard distance of 15 km and therefore a potential S-P-R link from the proposed activity[27].

Screening outcomes in relation to QIs of adjacent Natura 2000 SAC sites by the proposed activities are outlined in Table 6 which highlights the QIs and conservation objectives for each of the adjacent SAC Natura 2000 sites.

At the time of writing, no designated protected habitats or species have been recorded within Bantry Bay.

Table 6 Screening of the QIs considered against the proposed aquaculture activities.

Natura 2000 site	QI	Conservation Objective	Rationale	Screening Outcome
Glengarriff Harbour and Woodland SAC [000090]	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Maintain	There is no clear link between these terrestrial habitats that are QIs for the Glengarriff Harbour and Woodland SAC and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	Maintain		
	Kerry Slug (*Geomalacus maculosus*) [1024]	Maintain		
	Lesser Horseshoe Bat (*Rhinolophus hipposideros*)[1303]	Maintain		
	Otter (*Lutra lutra*) [1355]	Maintain	Glengarriff Harbour and Woodland SAC is located within the vicinity of the boundary of the closest proposed aquaculture site. Otter are a highly	In

[27] NPWS. 2009 Threat Response Plan: Otter (2009-2011). National Parks & Wildlife Service, Department of the Environment, Heritage & Local Government, Dublin.

			mobile species and forages 80 m from the coastline and generally travel distances of up to 500 m between islands and across estuaries. **The QI Otter is therefore, screened in as likely significant effects cannot be ruled out.**	
	Harbour Seal (*Phoca vitulina*) [1365]	Maintain	Harbour seals are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. Records from the Biodiversity Data Centre indicates that harbour porpoises have been recorded within Bantry Bay itself. **The QI Harbour Porpoise is therefore, screened in as likely significant effects cannot be ruled out.**	In
Sheep's Head SAC [000102]	Northern Atlantic wet heaths with *Erica tetralix* [4010]	Maintain	Sheep's Head SAC is approximately 0.5 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial habitats and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	European dry heaths [4030]	Maintain		
	Kerry Slug (*Geomalacus maculosus*) [1024]	Maintain		
Caha Mountains SAC [000093]	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	Maintain	The Caha Mountains SAC is approximately 1 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial and freshwater habitats and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site**. As there is no S-P-R these QIs are excluded from further analysis.**	Out
	Natural dystrophic lakes and ponds [3160]	Maintain		
	Blanket bogs (* if active bog) [7130]	Restore		
	Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110]	Restore		
	Kerry Slug (*Geomalacus maculosus)* [1024]	Maintain		
	Killarney Fern (*Trichomanes speciosum*) [1421]	Maintain		
	European dry heaths [4030]	Restore		
	Alpine and Boreal heaths [4060]	Maintain		
	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]	Restore		

	Calcareous rocky slopes with chasmophytic vegetation [8210]	Restore		
	Siliceous rocky slopes with chasmophytic vegetation [8220]	Restore		
	Northern Atlantic wet heaths with *Erica tetralix* [4010]	Restore		
Farranamanagh Lough SAC [002189]	Coastal lagoons [1150]	Maintain	Farranamanagh SAC is approximately 3km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial and costal habitats and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis**.	Out
	Perennial vegetation of stony banks [1220]	Restore		
Reen Point Shingle SAC [002281]	Perennial vegetation of stony banks [1220]	Maintain	Reen Point Shingle SAC is approximately 4 km from the boundary of the closest proposed aquaculture site. There is no clear link between the terrestrial coastal habitat and the proposed extensive aquaculture operations in Bantry Bay. This is a terrestrial costal QI and there is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis**.	Out
Glanmore Bog SAC [001879]	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	Maintain	Glanmore Bog SAC is approximately 4 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial and freshwater habitats and the proposed extensive aquaculture operations in Bantry Bay. These are terrestrial QIs and there is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis**.	Out
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	Maintain		
	Northern Atlantic wet heaths with Erica tetralix [4010]	Restore		
	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]	Restore		
	Blanket bogs (* if active bog) [7130]	Restore		
	Killarney Fern (Trichomanes speciosum) [1421]	Maintain		
	Freshwater Pearl Mussel *Margaritifera margaritifera* [1029]	Restore	The COs for *Margaritifera margaritifera* is to restore the favourable conservation condition of the freshwater pearl mussel. Attributes for this objective are based on distribution (km), population size (number of adults), structure (percentage of size class), adult mortality, extent and condition of suitable habitat, water and substratum quality, hydrological regime, presence	Out

			of host fish and area and condition of fringing habitat. The proposed activities have no spatial overlap with the freshwater habitat of the pearl mussel. However, the infrastructure required for the proposed aquaculture activities may pose a potential obstacle to the movement of their host species (salmonids). Longlines in the water may be an obstacle but they do not prevent the free movement of the fish between and around the structures. It may cause a change in behaviour at the location of the sites, but this is not likely to be significant and will not likely be a significant impact on these mobile species. **The Freshwater Pearl Mussel is therefore, screened out as likely significant effects can be ruled out.**	
Derryclogher (Knockboy) Bog SAC [001873]	Blanket bogs (* if active bog) [7130]	Restore	Derryclogher (Knockboy) Bog SAC is approximately 5 km from the boundary of the closest proposed aquaculture site. There is no clear link between the terrestrial habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
Dunbeacon Shingle SAC [002280]	Perennial vegetation of stony banks [1220]	Maintain	Dunbeacon Shingle SAC is approximately 5 km from the boundary of the closest proposed aquaculture site. There is no clear link between the terrestrial habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
Kenmare River SAC [002158]	Large shallow inlets and bays [1160]	Maintain	Kenmare River SAC is approximately 7 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial and/or marine coastal habitats that are QIs for the Kenmare River SAC and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	Reefs [1170]	Maintain		
	Submerged or partially submerged sea caves [8330]	Maintain		
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	Maintain		
	Mediterranean salt meadows (Juncetalia maritimi) [1410]	Maintain		
	Shifting dunes along the shoreline with white dunes (*Ammophila arenaria*) [2120]	Maintain		
	Fixed coastal dunes with herbaceous vegetation (grey dunes)* [2130]	Maintain		
	Narrow-mouthed Whorl Snail (*Vertigo angustior)* [1014]	Maintain		
	Lesser Horseshoe Bat (*Rhinolophus hipposideros*) [1303]	Maintain		
	European dry heaths [4030]	Maintain		

	Calaminarian grasslands of the Violetalia calaminariae [6130]	Maintain		
	Juniperus communis formations on heaths or calcareous grasslands [5130]	Restore		
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	Maintain		
	Perennial vegetation of stony banks [1220]	Maintain		
	Harbour Porpoise (*Phocoena Phocoena*) [1351]	Maintain	Harbour porpoise are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. Data from the Biodiversity Data Centre indicates that harbour porpoises have been sighted within Bantry Bay itself. **The QI Harbour Porpoise is therefore, screened in as likely significant effects cannot be ruled out.**	In
	Otter (*Lutra lutra*) [1355]	Restore	Kenmare River SAC is located approximately 7km from the boundary of the closest proposed aquaculture site. Otter are a highly mobile species and forages 80 m from the coastline and generally travel distances of up to 500 m between islands and across estuaries. Otters have been recorded to forage up to a distance of 15km. **The QI Otter is screened in as a QI of the Glengarriff Harbour and Woodland SAC.**	In
	Harbour Seal (*Phoca vitulina*) [1365]	Maintain	Harbour seals are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. Data from the Biodiversity Data Centre indicates that harbour porpoises have been sighted within Bantry Bay itself. **The QI Harbour seal is therefore, screened in as likely significant effects cannot be ruled out.**	In
Maulagowna Bog SAC [001881]	Blanket bogs (* if active bog) [7130]	Restore	Maulagowna Bog SAC is approximately 9 km from the boundary of the closest proposed aquaculture site. There is no clear link between the terrestrial habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
Cloonee and Inchiquin Loughs, Uragh Wood SAC [001342]	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	Maintain	Cloonee and Inchiquin Loughs, Uragh Wood SAC is approximately 9 km from the boundary of the closest proposed aquaculture site. There is no clear link between these freshwater and terrestrial and freshwater habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	Northern Atlantic wet heaths with Erica tetralix [4010]	Maintain		
	European dry heaths [4030]	Maintain		
	Siliceous rocky slopes with chasmophytic vegetation [8220]	Maintain		
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Restore		

	Kerry Slug (*Geomalacus maculosus*) [1024]	Maintain		
	Lesser Horseshoe Bat (*Rhinolophus hipposideros*)	Restore		
	Slender Naiad (*Najas flexilis*) [1833]	Maintain		
	Killarney Fern (*Vandenboschia speciosa*)	Maintain		
Cleanderry Wood SAC [001043]	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Maintain	Cleanderry Wood SAC is approximately 10 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial habitats that are QIs for the Cleanderry Wood SAC and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	Killarney Fern (*Trichomanes speciosum*) [1421]	Maintain		
Barley Cove to Ballyrisode Point SAC [001040]	Mudflats and sandflats not covered by seawater at low tide [1140]	Maintain	Barley Cove to Ballyrisode Point SAC is approximately 11 km from the boundary of the closest proposed aquaculture site. There is no clear link between these terrestrial and/or marine/costal habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
	European dry heaths [4030]	Maintain		
	Petalwort (Petalophyllum ralfsii) [1395]	Maintain		
	Perennial vegetation of stony banks [1220]	Maintain		
	Salicornia and other annuals colonising mud and sand [1310]	Maintain		
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	Restore		
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	Restore		
	Shifting dunes along the shoreline with white dunes (*Ammophila arenaria)* [2120]	Restore		
	Fixed coastal dunes with herbaceous vegetation (grey dunes)* [2130]	Restore		
Roaringwater Bay and Islands SAC [000101]	Large shallow inlets and bays [1160]	Maintain	Roaringwater Bay and Islands SAC is approximately 12 km from the boundary of the closest proposed aquaculture site. There is no clear link between these marine, coastal, and/or terrestrial habitats and the proposed extensive aquaculture operations in Bantry Bay. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis**.	Out
	Submerged or partly submerged sea caves [8330]	Maintain		
	European dry heaths [4030]	Maintain		
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	Maintain		
	Reefs [1170]	Maintain		
	Harbour porpoise *(Phocoena Phocoena*) [1351]	Maintain	Harbour porpoise are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. Data from the	In

			Biodiversity Data Centre indicates that harbour porpoises have been sighted within Bantry Bay itself. **The QI Harbour Porpoise is therefore, screened in as likely significant effects cannot be ruled out.**	
	Otter (*Lutra lutra*) [1355]	Restore	Roaringwater Bay and Islands SAC is approximately 12 km from the boundary of the closest proposed aquaculture site. Otter are a highly mobile species and forages 80 m from the coastline and generally travel distances of up to 500 m between islands and across estuaries. Otters have been recorded to forage up to a distance of 15km. **The QI Otter is screened in as a QI of the Glengarriff Harbour and Woodland SAC.**	In
	Grey seal (*Halichoerus grypus*) [1364]	Maintain	Grey seals are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. Data from the Biodiversity Data Centre indicates that Grey seal have been sighted within Bantry Bay itself. **The Grey seal is therefore, screened in as likely significant effects cannot be ruled out.**	In
Mucksna Wood SAC [001371]	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	Restore	Mucksna Wood SAC is approximately 14 km from the boundary of the closest proposed aquaculture site. There is no clear link between the terrestrial habitats and the proposed extensive aquaculture operations in Bantry. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out
Glanlough Woods SAC [002315]	Lesser Horseshoe Bat (*Rhinolophus hipposideros*) [1303]	Restore	Glanlough Woods SAC is approximately 15 km from the boundary of the closest proposed aquaculture site. There is no clear link between these primarily terrestrial species and the proposed extensive aquaculture operations in Bantry Bay, which are primarily sub-tidal. There is no spatial overlap or likely significant interaction with aquaculture activities within the potential site. **As there is no S-P-R these QIs are excluded from further analysis.**	Out

Table 7 shows the relevant qualifying features for SPAs in the zone of potential influence to the Bantry Bay sites. The relevant QIs are identified here and are assessed individually in Table 8.

Table 7 SPAs within zone of influence and respective SCIs

Site Name	QI
Beara Peninsula SPA [004155]	Fulmar (*Fulmarus glacialis*) [A009] Chough (*Pyrrhocorax pyrrhocorax*) [A346]
Sheep's Head to Toe Head SPA [004156]	Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]

Table 8 Screening of SCI species of SPAs within zone of influence.

Species	Distance to nearest SPA (km)	Site Name (nearest SPA)	Rationale	Screening Outcome
Peregrine (*Falco peregrinus*) [A103]	4.92	Sheep's Head to Toe Head SPA [004156]	A raptor that is a widespread resident in Ireland. Feeds mainly on birds, usually taken in the air and sometimes on the ground or on water, swooping down with great speed. Prey includes pigeons, birds, thrushes, waders, wildfowl and gulls. There is the possibly of spatial overlap between the foraging habitat of the Peregrine falcon and the proposed activities. However, as it is an aerial predator there will be no exclusion from foraging grounds or disturbance in the area. There is the possibility of indirect effects if the proposed activities cause a decline in the marine bird population however the Peregrines ability to forage on both terrestrial and marine species makes the possibility of likely significant effects low. **The Peregrine falcon is therefore screened out.**	Out
Chough (*Pyrrhocorax pyrrhocorax*) [A346]	4.92	Sheep's Head to Toe Head SPA [004156]	Chough are residents along rocky coasts. They feed mostly on insects and their larvae, worms and other subterranean invertebrates. They will also eat berries, grain, small mammals and birds and scavenge. They nest in caves or crevices along coasts, or less frequently, in old buildings. In winter, they are mainly locally dispersed from breeding sites to favoured coastal areas. The show strong nest site and territory fidelity. While there is potential presence due to being a coastal bird, there will likely be no interaction with aquaculture sites due to being a terrestrial feeder. **Chough is therefore screened out.**	Out
Fulmar (Fulmarus glacialis) [A009]	1.63	Beara Peninsula SPA [004155]	Resident along all Irish coasts. A variety of prey including fish discards from trawlers, crustaceans and whale flesh. Comes to land in the day. Mainly breeds on sea cliffs, but will nest on level ground, on buildings and in burrows and crevasses. Will use both steep rocky cliffs, grassy cliffs and steep slopes above cliffs. Winters at sea but can be seen in Irish waters throughout the year. Attends colonies in the winter sporadically, with breeding cliffs deserted one week and full the next. Possible spatial overlap between the proposed activities, foraging distribution and breeding colonies of Fulmar. Given that there is therefore the possibility of spatial overlap between foraging habitat, breeding colonies and the proposed activities, there is the possibility of disturbance from the proposed activity. **Fulmar is therefore screened in.**	In

5.3 Screening of long-ranging species QIs

A search was carried out for any SAC or SPA which had one of the species listed as a protected feature for which Bantry Bay sites were within its foraging range. Harbour Porpoise (*Phocoena phocoena*) [1351], Grey Seal (*Halichoerus grypus*) [1364], and Harbour Seal (*Phoca vitulina*) [1365] are considered as QIs in the zone of influence of the project.

5.3.1 Bottlenose Dolphin (*Tursiops truncatus*) [1349]

Bottlenose dolphin is included in this screening as it is deemed to have a wide foraging range which has yet to be documented in literature within Irish waters. Data from the National Biodiversity Data Centre indicates that bottlenose dolphin have been reported within Bantry Bay itself with reported sightings as recently as 2023[28] (Figure 7). Bottlenose dolphins are highly mobile and therefore the possibility of overlap with the proposed activities cannot be ruled out. **The QI Bottlenose Dolphin is therefore, screened in as likely significant effects cannot be ruled out.**

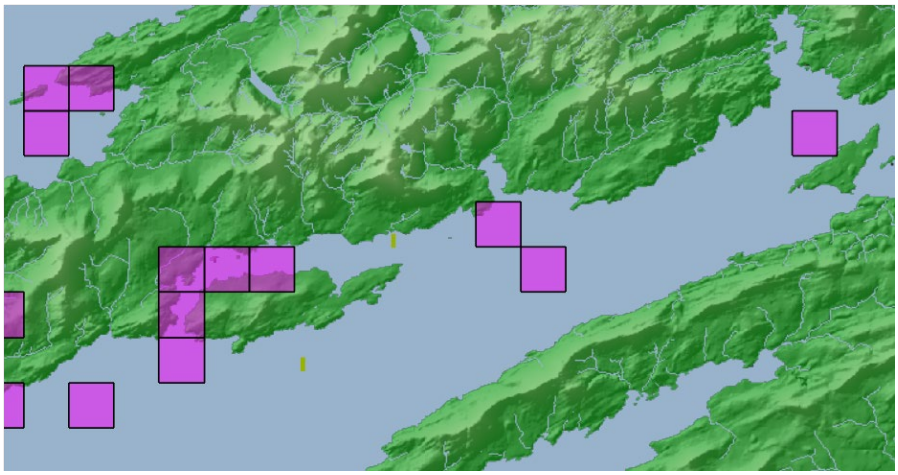

Figure 7 Bottlenose dolphin reports in Bantry Bay. Data from the National Biodiversity Data Centre accessed April 2026.

[28] Biodiversity Maps Ireland,2026. Link

5.3.2 Long Ranging Birds

Table 9 Long Ranging Birds Screening

Species	Stage	Maximum foraging range (km)	Global Mean foraging range (km)	Distance to nearest SPA (km)	Site Name (nearest SPA)	Rationale	Screening Outcome
Atlantic Puffin (*Fratercula arctic*)	Breeding	383	62.4	25.46	The Bull and The Cow Rocks SPA [004066]	Due to puffin's preference for foraging offshore and the lack of overlap of breeding grounds and the proposed activities, it is not likely that there will be significant effects on the puffin.	Out
Black- legged kittiwake (Rissa tridactyla)	Breeding	770	54.7	18.65	Iveragh Peninsula SPA [004154]	Due to the black-legged kittiwake's preference for foraging marine pelagic fish offshore and the lack of overlap of breeding grounds and the proposed activities, likely significant effects on the black-legged kittiwake can be ruled out.	Out
Common Gull (*Larus canus*)	Winter/Year-round	50	25	47.04	Courtmacsherry Bay SPA [004219]	Foraging distance of common gull is 50km and likely overlaps with the proposed activities. There is a possibility of disturbance and exclusion from the proposed activities.	In
European Storm Petrel (*Hydrobates pelagicus*)	Breeding	468.7	227.7	24.21	Deenish Island and Scariff Island SPA [004175]	Due to the European storm petrel's preference for foraging offshore and the lack of overlap of breeding grounds and the proposed activities, likely significant effects on storm petrel can be ruled out.	Out
Guillemot (*Uria aalge*)	Winter/Year-round	338	73.2	18.65	Iveragh Peninsula SPA [004154]	Breeds on cliffs and is almost entirely offshore marine. No spatial overlap between the proposed activities and this QI.	Out
Black Guillemot (*Cepphys grille*)	Winter/Year-round	338	73.2	18.65	Iveragh Peninsula SPA [004154]	As the life stage and foraging range of the Black Guillemot (*Cepphus grylle*) are not clearly defined, these have been adapted from the Guillemot (*Uria aalge*). The Black Guillemot is not an SCI for any SPA, however, a total of 118 individuals, representing potential breeding pairs, have been recorded within the Beara Peninsula SPA site synopsis; therefore, the species is precautionarily screened in.	In
Herring Gull (*Larus argentatus*)	Winter/Year-round	92	14.9	64.63	Blasket Islands SPA [004008]	Foraging distance of herring gull is 92km and likely overlaps with the proposed activities. There is a possibility of disturbance and exclusion from the proposed activities. A total of 20 potential breeding pairs, have been recorded within the Beara Peninsula SPA, therefore, the species is precautionarily screened in.	In
Leach's Storm Petrel (*Hydrobates leucorhous*)	Breeding	657 (Used the global mean for the max)	657	291.59	Stags of Broad Haven SPA [004072]	Due to storm petrel's preference for foraging offshore and the lack of overlap of breeding grounds and the proposed activities, it is not likely that there will be significant effects on storm petrel.	Out
Lesser-black back gull (*Larus fuscus*)	Winter/Year-round	533	43.3	24.21	Deenish Island and Scariff Island SPA [004175]	Foraging distance of Lesser black-backed gull is 533km and likely overlaps with the proposed activities. There is a possibility of disturbance and exclusion from the proposed activities. A total of 4	In

Species	Stage	Maximum foraging range (km)	Global Mean foraging range (km)	Distance to nearest SPA (km)	Site Name (nearest SPA)	Rationale	Screening Outcome
						potential breeding pairs, have been recorded within the Beara Peninsula SPA, therefore, the species is precautionarily screened in.	
Manx Shearwater (*Puffinus puffinus*)	Breeding	2,890	136.1	24.21	Deenish Island and Scariff Island [004175]	Due to Manx Shearwater's preference for foraging offshore and the lack of overlap of breeding grounds and the proposed activities, it is not likely that there will be significant effects on Manx Shearwater.	Out
Northern Gannet (*Morus bassanus*)	Winter/Year-round	709	120.4	25.46	The Bull and The Cow Rocks SPA [004066]	Due to Northern Gannet's preference for foraging offshore and the lack of overlap of breeding grounds and the proposed activities, likely significant effects on the Northern Gannet can be ruled out.	Out
Razorbill (*Alca torda*)	Breeding	313	61.3	40.81	Puffin Island SPA [004003]	Razorbill winter at sea and are nest on sea cliffs during the breeding season, March/April to August/September. Feeds mainly on small fish, and some invertebrates, caught by surface diving in marine waters. There is no spatial overlap between the proposed activities and the breeding or foraging habitats of these SPAs for which the species is an SCI, however a total of 5 potential breeding pairs have been recorded within the Beara Peninsula therefore, the species is precautionarily screened in.	In
Shag (*Gulosus aristotelis*)	Winter/Year-round	46	9.2	65.41	Blasket Islands SPA [004008]	A resident species along all Irish coasts with a strong preference for rocky coasts, that feeds on a wide range of small fish. They nest on ledges, in crevasses, in caves or under boulders, on cliffs all around the coast. Whilst young birds will disperse widely, most adults will winter in the vicinity of their breeding colonies. There is no spatial overlap between the proposed activities and the breeding or foraging habitats of these SPAs for which the species is an SCI, however a total of 12 potential breeding pairs have been recorded within the Beara Peninsula therefore, the species is precautionarily screened in.	In

5.4 Screening of Potential Effects of Introduction of Non-native Species

The establishment of non-native species as a wild population in an area can be a potential risk associated with aquaculture and can occur due to the moving of stock (seed, juvenile or adults) into aquaculture sites. This may occur if the culture organism[s] become established as a wild, non-native population, or, if non-native species 'hitch-hike' along with the cultured organisms and then become established as a wild population owing to favourable environmental conditions.

Mussel seed obtained from natural spat-fall collection on collector ropes at sea from within the bay would not pose a biosecurity risk. Wild and hatchery seed sourced from overseas, may present a biosecurity and non-native species transference risks. Seed sourced from outside the bay may facilitate the introduction of non-native species as non-native species may be inadvertently transported alongside the cultured stock, resulting in the transfer of non-native organisms into the receiving waters. These "hitch-hiking" species may facilitate the unintended introduction of non-native organisms into the Bay.

The primary risk of the proposed activities to the QIs in the surrounding vicinity of Bantry Bay is the potential transfer of non-native species through the movement of seed stock from outside the bay, as well as the potential for the aquaculture of Pacific Oyster (*Magallana gigas*) and Harpoon Weed (*Asparagopsis armata*) to proliferate as wild, non-native populations. **Therefore, the potential for the increased presence of feral Pacific oyster and Harpoon Weed (*Asparagopsis armata*) populations are screened in**. **Non-native species and source of seed stock, therefore, should be carried forward for further consideration in a Stage 2 AA.**

5.5 Aids to navigation

The suspended mussel aquaculture sites proposed navigation plan is a marking scheme with a placement of 4 x yellow NAV02 buoys at each corner of each site. The subtidal markers pose potential entanglement risk particularly for diving species. The marker buoys will be in a depth of approximately (12 metres). The buoy will be moored with chain rope which should provide sufficient visual reference for diving species and reduces the likelihood of entanglement**. Likely significant effects of entanglement on diving birds can therefore be ruled out.**

Lighted structures pose a visual disturbance to species foraging at night-time. However, the stationary nature and synchronization of the majority of lights will allow species particularly seals to become habituated. **Likely significant effects on SAC species can be ruled out.**

5.6 In-combination effects

It is important to consider, for those QIs that may screen out during the initial AA screening exercise, if the pressures deriving from the proposed activities acts in-combination with other activities such that additive or synergistic effects are realised on the QIs. It is possible that such combined effect may cause the QI, therefore, to screen in and be considered further in the AA process. It should be noted that, interactions are additive when their combined effect is the sum of each independently, synergistic when the combined effect is greater than the sum of each independently, and antagonistic when the combined effect is less than the sum of each independently.

5.6.1 Aquaculture activities

All aquaculture activities (shellfish, finfish and landbased) can have an in-combination effect on all marine community types by virtue of the extent of the activity. Therefore, in-combination effects of all aquaculture activities combined must be considered.

5.6.1.1 Extensive aquaculture

There are currently 26 licensed shellfish, seaweed and or/echinoderm aquaculture sites in Bantry Bay (Table 10). The main species grown are the Blue Mussel, Pacific Oyster and the Great Atlantic Scallop, Periwinkle and Seaweeds. There are also currently 6 extensive shellfish aquaculture sites in Glengarriff Harbour and Woodlands SAC (Table 11). The main species grown are the Blue Mussel.

Table 10 Extensive aquaculture activities which are not being considered for renewal in Bantry Bay.

License	Aquaculture Type	Culture Type	Species	Area (ha)
T05-053N2	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	0.40
T05-498A	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	12.79
T05-433	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	12.79
T05-495A-N	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	18.80
T05-408A	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	17.48
T05-084C	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	8.75
T05-601A	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	9.75
T05-534B	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	6.46
T05-065N1	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	10.00
T05-534A	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	1.77
T05-425B	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	9.60
T05-464	Shellfish	Longlines	Blue Mussel (*Mytilus Edulis*)	12.99
T05-535A	Shellfish	Longlines with droppers and longlines with oyster baskets	Blue Mussel (*Mytilus Edulis*), Pacific Oyster (*Magallana gigas*)	9.00
T05-084B	Shellfish	Bag and Trestle	Pacific Oyster (*Magallana gigas*)	4.02
T05-084A	Shellfish	Bag and Trestle	Pacific Oyster (*Magallana gigas*)	1.17
T05-634A	Shellfish	Baskets, Bag and Trestles	Pacific Oyster (*Magallana gigas)*	5.58
T05-600A	Shellfish	Bottom Culture	Great Atlantic Scallop (*Pecten maximus*)	1.22
T05- 599A	Shellfish	Bottom Culture	Great Atlantic Scallop (*Pecten maximus*)	5.24
T05-625A	Shellfish	Bottom Culture	Periwinkle (*Littorina littorea*)	1.15
T05-623A	Shellfish	Bottom Culture	Periwinkle (*Littorina littorea*)	3.29

License	Aquaculture Type	Culture Type	Species	Area (ha)
T05-624A	Shellfish	Bottom Culture	Periwinkle (*Littorina littorea*)	3.69
T05-622A	Shellfish	Bottom Culture	Periwinkle (*Littorina littorea*)	2.51
T05-594A	Shellfish, Echinoderm and Seaweed	Longlines and Shellfish Baskets	Stony Sea Urchin (*Paracentrotus lividus*), European Flat Oyster (*Ostrea edulis*), Periwinkle (*Littorina littorea*), Pacific Oyster (*Magallana gigas*), Great Atlantic Scallop (*Pecten maximus*), Irish Wakame (Alaria esculenta), North European Kelp (*Laminaria digitata*), Sugar Kep (*Saccharina latissimi*) Dilisk (*Palmaria palmata*), Sea Lettuce (*Ulva lactuca*), Nori (*Porohyra sp.*), Carrageen moss (*Chondrus crispus, Mastocarpus stellatus*)	6.00
T05-587A	Seaweed	Longlines	Irish Wakame (*Alaria exculenta*), North European Kelp (*Laminaria digitata*), Dulse (*Palmaria palmata*), Nori (*Porphyra sp.*)	25.16
T05-607A	Seaweed	Longlines	Irish Wakame (*Alaria esculenta*), North European Kelp (Laminaria digitata), Sugar Kelp (*Saccharina latissimi*), Dilisk (*Palmaria palmata*), Sea Lettuce (*Ulva lactuca*), Nori (*porphyra sp.*), Carrageen moss (*Chondrua crispus, Mastocarpus stellatus*)	4.45
T05-586A	Seaweed	Longlines	Dulse (*Palmaria palmata*), Irish Wakame (*Alaria esculenta*), Nori (*Prophyra*), North European Kelp (Laminaria *Digitata*)	13.60

Table 11 Extensive aquaculture activities within Glengarriff Harbour and Woodlands SAC.

Site No.	Site Status	Aquaculture Type	Species	Area (ha)
T05-058N8	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	2.10
T05-276N1	Renewal	Longlines	Blue Mussel (*Mytilus Edulis*)	1.60
T05-058N1	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	4.60
T05-058N2	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	17.25
T05-058N6	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	10.36
T05-276N2	Renewal and Review	Longlines	Blue Mussel (*Mytilus Edulis*)	3.81

5.6.1.2 Intensive aquaculture

There are, at the time of writing, 4 finfish licenses covering 6 sites within Bantry Bay for the culture of Atlantic Salmon (*Salmo salar*) and one license for the culture of Rainbow Trout (*Oncorhynchus mykiss*) within Bantry Bay (Table 12).

Table 12 Intensive aquaculture activities in Bantry Bay.

License	Aquaculture Type	Culture Type	Species	Area (ha)
T05-122-4	Finfish	Net pens	Atlantic Salmon (*Salmo salar*)	13.2
T05-427-2	Finfish	Net pens	Rainbow Trout (*Oncorhynchus mykiss*)	12.00
T05-555A	Finfish	Net pens	Atlantic Salmon (*Salmo salar)*	42.49
T05-444D-E	Finfish	Net pens	Atlantic Salmon (*Salmo salar*)	52.87

The main pressures on habitats from aquaculture activities are smothering, and on species include disturbance and introduction of non-indigenous species. Disturbance on birds from added boat traffic and entanglement of birds in pens or netting are pressures which must also be considered.

The pressures from existing intensive and extensive aquaculture activities could work in-combination with smothering and disturbance effects from proposed extensive aquaculture activities and should be screened in for further consideration.

5.6.1.3 Landbased aquaculture activities

There are currently two landbased licensed sites for the culture of multiple species adjacent to Bantry Bay (Table 13).

Table 13 Landbased aquaculture activities adjacent to Bantry Bay.

License	Aquaculture Type	Culture Type	Species	Area (ha)
T05-314-2	Landbased	Shellfish, finfish, crustacean, echinoderm and algae	Atlantic Salmon (*Salmo Salar*), Abalone (*Haliotis Spp*), Ballan Wrasse (*Labrus Bergylta*), Black Sea Cucumber (*Holothuria Forskali*), Blue Mussels (Mytilus Edulis), Brill (*Scophthalmus Rhombus*), Brown Trout (*Salmo Trutta*), Char (*Salvelinus Alpinus*), Cockles (*Cerastoderma Edule*), Cod (*Gadhus Morhua*), Common Sole (*Solea Solea*), Crayfish (*Astacas Spp,Austropotamobius spp*), Dab (*Limanda Limanda*), European Eel (*Anguilla Anguilla*), European Flounder (*Platichthys Flesus*), Flat Oysters (*Ostrea Edulis*) Goldsinny Wrasse (*Ctenolabrus Rupestris*), Haddock (*Melanogrammus aeglefinus*), Halibut (*Hippoglossus Hippoglossus*),Lobsters (*Homarus Gammarus*), Lumpsucker (*Cyclopterus Lumperus*), Periwinkles (*Littorina Spp*), Prawns (*Palemon Spp.*), Rainbow Trout (*Oncorhynchus Mykiss),* Scalllops (*Pecten Maximus*), Sea Bass(*Dicentrarchus Labrax*), Sea Urchins (*Paracentrotus Lividus*), Shrimps (*Crangon crangon*), Soft-shell Clams (*Mya Arenraia*), Turbot (*Scophthalmus Maximus*), Whelks (*Buccinum Undatum, Nuvella Lapillus*), Wolffish (*Anarhichas Lupus*), Microalgae, Native indigenous macroalgae, Zooplankton and other native species.	0.22
T05-487	Landbased	Shellfish, Echinoderms, Finfish and cleaner fish	Red and Green Abalone (*Discus Hannai* and *Tuberculata*),Sea Urchin (*Phylum Echinodermata*), Red Seaweeds (*Phylum Rhodophyta*),Tilapia (*Genus Tillapia*),Salmon (*Salmo salar*), Lump Sucker (*Cyclopterus Lumpus L.*),Wrasse (*Labridae*), Pacific Oyster (*Magallana gigas*), Native Oyster(*Ostrea Edulis*), all Native and Naturalised Indigenous Seaweed species and Sea Grass found in Irish Waters.	1.06

Effluent generated from the landbased aquaculture activities is filtered via a rotating drum filter and settlement tank; therapeutic prophylactic chemical treatments are used to treat discharges. All discharges from the rotating drum filter and settlement tank will pass through a designated sewer discharging via a manhole and pipe to the sea.

There are no anticipated pressures associated with wastewater discharge from land-based aquaculture activities within Bantry Bay, as the effluent is subject to filtration and chemical treatment prior to release. Therefore, the potential for in-combination effects from land-based aquaculture activities is screened out.

5.6.2 Fishing Activity

The following are fishery activities occur within the Bantry Bay area [29]: bottom trawl fishing, dredge fishing, line fishing, nets fishing, pot fishing and periwinkle harvesting (Figure 8). The physical pressures associated with the fishing activities may have disturbance effects on benthic habitats. In combination with these activities, abrasion pressures may also be exerted on the surrounding benthic habitats, and disturbance to birds may arise from the aquaculture activities. Therefore, at the time of writing, **the physical pressures of fishing may have disturbance effects on benthic habitats in-combination with the effects from the aquaculture activities and therefore will be screened in for further consideration.**

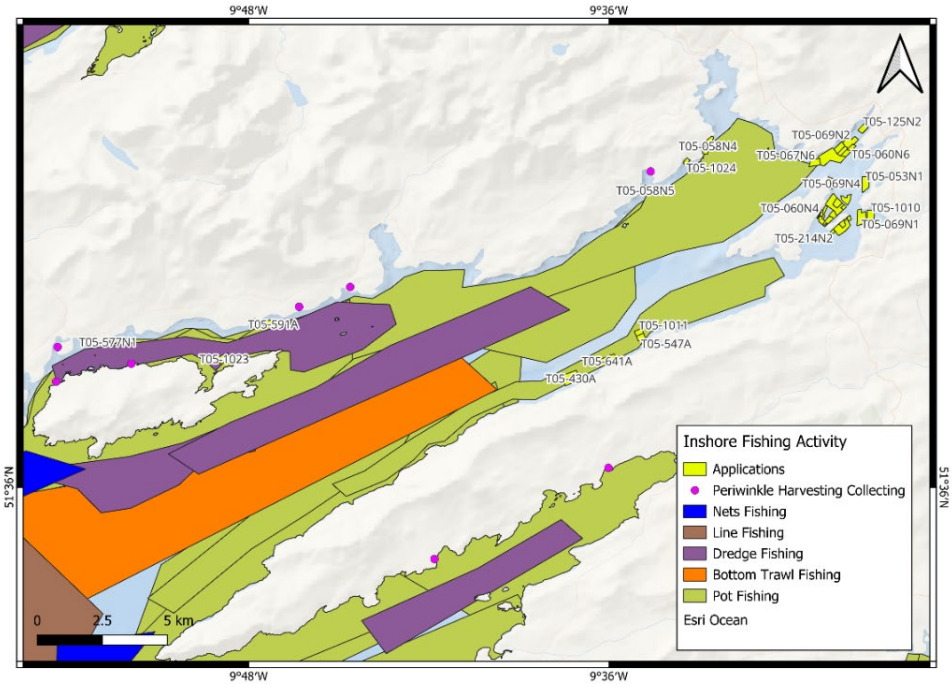

Figure 8 Inshore fishing activities within Bantry Bay.

5.6.3 Vessel movement

Bantry Bay has a national ferry route which runs through the area (Figure 9). Multiple tourist vessels are known to operate within Bantry Bay, including vessels providing marine wildlife tour services. There are four ferry ports present within Bantry Bay, vessel movement in the surrounding areas may potentially overlap with the access routes of the proposed aquaculture activities**. Therefore, vessel movement is screened in for further assessment as likely significant effects cannot be ruled out.**

[29] Ireland's marine Atlas https://atlas.marine.ie/#?c=53.9108:-15.8972:6

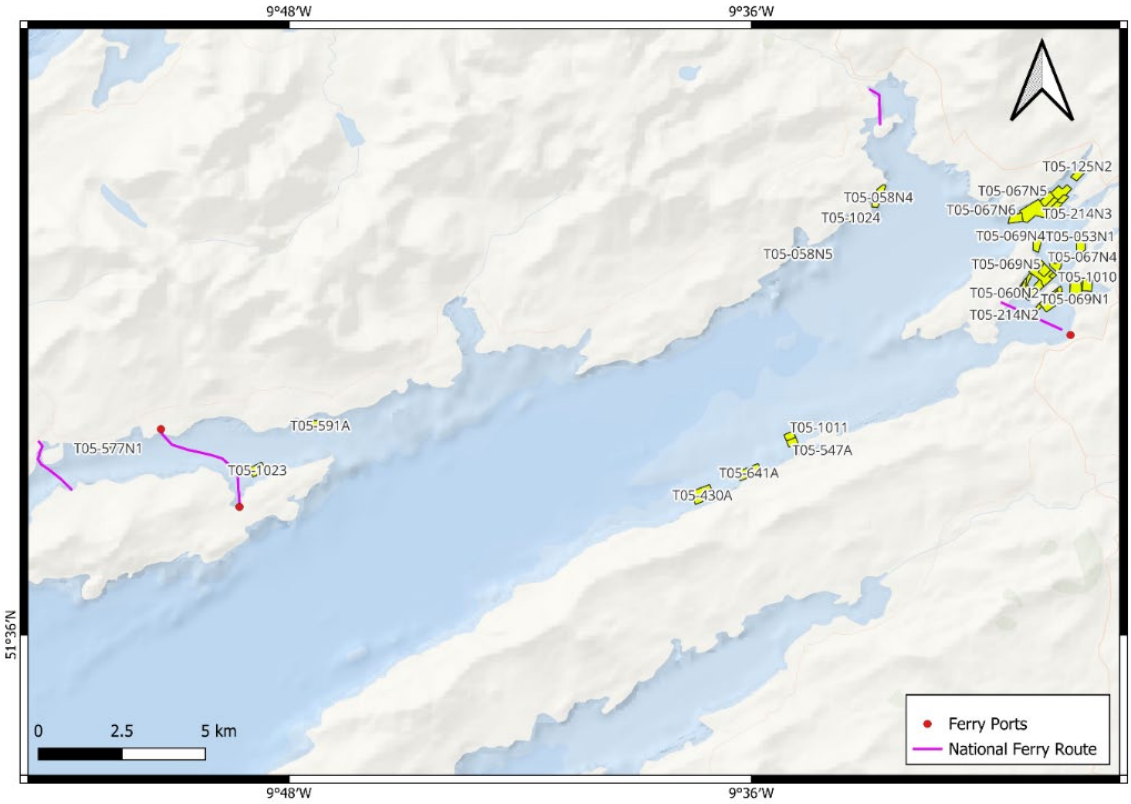

Figure 9 Ferry ports and national ferry routes within Bantry Bay.

5.6.4 Other activities

Existing and proposed licensing activities in the vicinity of the proposed extensive shellfish culture activities have been reviewed. Those activities reviewed are:

- EPA pressures maps (Link - accessed 11/05/2026)
- MARA Consent Determinations (Link -accessed 11/05/2026)
- MARA Foreshore Licencing (MAC) (Link – accessed 11/05/2026)
- MARA planning (MUL) (Link – accessed 11/05/2026)
- Cork County Council planning (Link Map Viewer - accessed 11/05/2026)

Based on these searches these were the projects considered in Table 14 that could have in-combination effects in Bantry Bay, with screening conclusions.

Table 14 Other activities assessed in the vicinity of Bantry Bay

Application Ref.	Project Description	Project status	Reasoning	Screening for Significant Cumulative Effects
MUL240045	To install a series of sculptures on the seabed for a sub-marine sculpture garden accessible from Glengarriff Harbour and Bantry Pier.	Application Returned-03/12/2024	No spatial overlap. Considering the distance and the likely distribution of any potential impacting factors, it is considered that the proposed works would have no potential to significantly act in-combination with the proposed aquaculture activities.	Out
MUL240005	Marine geophysical site investigations in the Celtic Sea. Allod Energy Ltd will undertake these investigations with the objective of assessing an area in the Celtic Sea for potential subsea hydrogen storage.	Applied 19/09/2024	No spatial overlap. Considering the distance and the likely distribution of any potential impacting factors, it is considered that the proposed works would have no potential to significantly act in-combination with the proposed aquaculture activities.	Out
MAC240045	Construction of a Marine Activity Centre; dredging; rock armour; jetties at Bantry Bay	Withdrawn 23/01/2026	No spatial overlap. Considering the distance and the likely distribution of any potential impacting factors, it is considered that the proposed works would have no potential to significantly act in-combination with the proposed aquaculture activities.	Out

No additional activities will have significant in-combination interactions with aquaculture such that there would be in-combination effects on the SAC features.

6 Conclusions

This screening exercise for the Bantry Bay area and surrounding Natura 2000 sites have indicated that likely significant effects of the proposed aquaculture activities cannot be ruled out for a number of habitat and species within and in the surrounding area of the Bantry Bay area. Table 15 presents a summary of the screening outcome for each of the aquaculture application sites. The table identifies sites that have a likely significant effect on QI for a relevant Natura Site (SAC/SPA) that cannot be excluded at this stage of the assessment.

Table 15 Summary of screening conclusions by aquaculture site.

Site No.	Status	Activity/Species	Habitat (QI)	Species (QI)	Non-native species
T05-1024	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-1023	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-053N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-053N6	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-058N4	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-058N5	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-060N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	P
T05-060N2	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-060N3	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-060N4	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-060N5	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-067N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-067N2	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-067N4	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-067N6	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N4	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N5	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-125N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	P
T05-214N1	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-214N2	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N2	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-214N3	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N3	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-053N4	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-067N5	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-125N2	A	Blue Mussel (*Mytilus Edulis*)	N	P	P
T05-060N6	A	Blue Mussel (*Mytilus Edulis*)	N	P	P
T05-069N7	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-591A	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-069N6	A	Blue Mussel (*Mytilus Edulis*)	N	P	N
T05-577N1	A	Pacific Oyster (Magallana Gigas)	N	P	P
T05-1010	A	Pacific Oyster (*Magallana gigas*), Native Oyster (*Ostrea Edulis*)	N	P	P

T05-1011	A	Irish Wakame (*Alaria esculenta*), Sea Lettuce (*Ulva lactuca*), Dulse (*Palmaria palmata*),Sugar Kelp (*Saccharina latissima*), North European Kelp (Digitata) (*Laminaria digitata*), Toothed wrack (*Fucus serratus*), Harpoon weed (Asparagopsis armata)	N	P	P
T05-641A	A	Pacific Oyster (*Magallana gigas*), European flat oyster (Ostrea edulis), Irish Wakame (Alaria Esculenta), Sugar Kelp (*Saccharina latissima*), Northern European Kelp (Digitata) (*Laminaria Digitata),* Dulse (*Palmaria palmata*), Bladderwrack (*Fucus vesiculosus*), Northern European Kelp (*Laminaria Hyperborea*), Knotted wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea thong (*Himanthalia elongata*), Harpoon Weed (*Asparagopsis armata*)	N	P	P
T05-430A	A	Blue Mussel (*Mytilus Edulis*), Irish Wakame (*Alaria esculenta*), North European Kelp (*Laminaria digitata*), Dulse (*Palmaria palmata*), Nori (*Porphyra umbilicalis*), Bladderwrack (*Fucus vesiculosus*), Sugar Kelp (*Saccharina latissima*), North European Kelp (*Laminaria hyperborea*), Knotted Wrack (*Ascophyllum nodosum*), Sea Lettuce (*Ulva Lactuca*), Sea Thong (*Himanthalia elongata*), Harpoon weed (*Asparagopsis armata)*	N	P	P
T05-547A	A	Irish Wakame (*Alaria esculenta*), Sea Lettuce (*Ulva lactuca*), Dulse (*Palmaria palmata*), Sugar Kelp (*Saccharina latissima*), North European Kelp (Digitata) (*Laminaria digitata*), Toothed wrack (Fucus serratus), Harpoon weed (*Asparagopsis armata*)	N	P	P
A=Application		*N - No significant effect* *P - Likely significant effect cannot be excluded*			

It is recommended, therefore, that the proposed activities are carried forward for a Stage 2 Appropriate Assessment, for consideration of interactions with Qualifying Interests and Conservation Features, as outlined below.

- Bottlenose Dolphin (*Tursiops truncatus*) [1349]
- Grey Seal (*Halichoerus grypus*) [1364]
- Harbour Porpoise (*Phocoena phocoena*) [1351]
- Harbour Seal (*Phoca vitulina*) [1365]
- Otter (*Lutra lutra*) [1355]
- Black Guillemot (*Cepphys grylle*)
- Common Gull (Larus canus) [A182]
- Fulmar (*Fulmarus glacialis*) [A009]
- Herring Gull (*Larus argentatus*) [A184]
- Lesser black- backed gull (*Larus fuscus*) [A489]
- Razorbill (*Alca torda*) [A200]
- Shag (*Gulosus aristotelis*) [AB03]

The risk of naturalisation posed by the culture of the non-native species along with the source of seed stock will be brought forward to Stage 2 Appropriate Assessment.

Finally, in-combination effects of disturbance on marine birds and species with licensed intensive and extensive aquaculture, fishing activity and vessel movement will also be brought forward to Stage 2 Appropriate Assessment.

It is concluded beyond reasonable scientific doubt and in view of best scientific knowledge, on the basis that likely significant effects of the proposed activity on the European sites cannot be excluded, these QIs are brought forward for Stage 2 Appropriate Assessment.