Report supporting Appropriate Assessment Screening

of Extensive Aquaculture in

Valentia Harbour/Portmagee Channel SAC

(Site Code: 2262)

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Version: September 2023

Contents

List of Figures

List of Tables

1 Preface

Articles 3 to 16 of the European Community (EC) Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (commonly known the Habitats Directive) provide the legislative means to protect habitats and species of community interest through the conservation of an EU-wide network of protected sites known as Natura 2000 sites.

The Habitats Directive was implemented into national law under Regulation 31 of the Habitats Regulations SI 94/1997 and subsequently amended and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011. Following the requirements of Article 6(3) an Appropriate Assessment (AA) is required if a plan or project is likely to have a significant effect on the features for which the site is designated, 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 AA is to assess whether the plan or project will have any adverse effect on the integrity of Natura 2000 site(s) in view of the Conservation Objectives set for the features (habitats and/or species) for which the site(s) is designated.

Natura 2000 sites in Ireland, that 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 species and habitats 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 EU Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds). The features for which SACs and SPAs are designated are respectively called Qualifying Interests and Special Conservation Interests (also collectively referred to as conservation features). The National Parks and Wildlife Service (NPWS) are the competent authority for the management of Natura 2000 sites in Ireland.

Aquaculture operations existed in coastal areas prior to the designation of areas as SACs and SPAs under the Directives. Ireland is undertaking AA of existing and proposed aquaculture activities in SACs and SPAs. This is an incremental process, as agreed with the EU Commission in 2009, and will ultimately cover all aquaculture activities in all Natura 2000 sites. AA of aquaculture operations are carried out against the Conservation Objectives for the conservation features of the Natura 2000 site, as defined by the NPWS.

Aquaculture activities are licenced by the Department of Agriculture, Food and Marine (DAFM). DAFM receives applications to undertake such activity and submits a set of applications, and current existing licences, for AA. 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 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.

2 Introduction

2.1 Overview of this Assessment

This document assesses the potential effects of proposed extensive aquaculture activities in combination with existing aquaculture activities on the Qualifying Interests (QIs) of the Valentia Harbour/Portmagee Channel SAC (Site Code: 2262), among others. Extensive aquaculture is defined in Regulation 3(iii) of the Aquaculture (Licence Applications) (Amendment) Regulations 2018 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, finfish aquaculture does not.

The aim of this report is to consider if the proposed aquaculture activities are likely to significantly affect the QIs of Natura 2000 sites in view of their Conservation Objectives (COs). This is achieved by following a screening process. If there is potential for the activities considered likely to 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 (e.g. fisheries).

This document considers the potential ecological interactions between aquaculture activities and the Conservation Objectives (COs) of the Valentia Harbour/Portmagee Channel SAC (Site Code 2262) among others.

2.2 Legislative Context

Articles 3 - 11 of the European Community (EC) Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the **Habitats Directive**[1]) provide the legislative means to protect habitats and species of Community interest through the conservation of an EU-wide network of protected sites, known as **Natura 2000** sites[2].

The Habitats Directive 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*[3], 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 include Special Areas of Conservation (**SACs**) which are designated under the Habitats Directive, and Special Protected Areas (**SPAs**) which are designated under EC Directive EC 79/409/EEC (the **Birds Directive**[4]).

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. The specific named habitats and/or (non-bird)

1 https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
2 https://ec.europa.eu/environment/nature/natura2000/index_en.htm
3 European Communities (Birds and Natural Habitats) Regulations 2011 to 2021 - Unofficial Consolidation (Updated to 28 July 2022)(1).pdf (npws.ie)
4 https://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm

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 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.

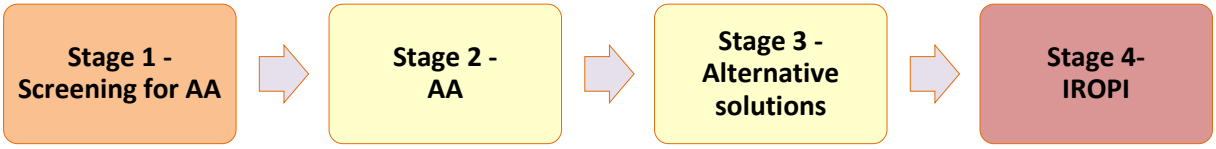
DAFM has responsibility for foreshore licensing functions in respect of activities wholly or primarily for the use, development or support of aquaculture under the 1933 Foreshore Act, as amended. DAFM is also the aquaculture licensing authority under the *Fisheries (Amendment) Act (1997*)[5] and determines applications for new, or renewal of, aquaculture licences. They are 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.

2.3 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[6]. The *Guidance on Appropriate Assessment of Plans and Projects in Ireland* document[7] 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[8], 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:

[5] https://revisedacts.lawreform.ie/eli/1997/act/23/revised/en/html
[6] EC 2018. Guidance on Aquaculture and Natura 2000 Sustainable aquaculture activities in the context of the Natura 2000 Network Link
[7] DEHLG, 2009. Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Link
[8] OPR - Office of Planning Regulator (2021). Appropriate Assessment Screening for Development Management. March 2021. 43pp Link



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.

2.3.1 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 the 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 greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no effect.

2.3.2 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 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.

2.4 Structure of AA Reports

This screening report provides:

1. **Introduction -** an outline of the legislative context and the processes.
2. **Appropriate Assessment Screening -** providing details of the AA screening undertaken.
3. **Conclusion** - a summary of the findings from the screening process.

2.5 Data sources

This process and report relies on data and information from a broad range of diverse 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
- NPWS Guidance documents
- BIM 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
- Aquaculture (Licence Application) (Amendment) Regulations 2018
- Ireland's Marine Atlas
- MI/BIM Inshore fishing reports
- DHLGH Foreshore licencing database
- EPA GeoHive
- EPA maps tool
- NPWS Status of EU Protected Habitats and Species in Ireland – Article 17 (Habitats & species
- EU Commission assessments of birds population status and trends web tool
- Marine Life Information Network
- EPA Catchments.ie dashboard
- Ordnance Survey of Ireland (OSI)
- National Biodiversity Data Centre
- European Environmental agency
- OPR, 2021. Appropriate Assessment Screening for Development Management. March 2021; Office of Planning Regulator.
- 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.
- 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 Link
- 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 information for the FFH impact assessment
- ABPMer, 2013a – h. Tools for Appropriate Assessment of Fishing and Aquaculture Activities in Marine and Coastal Natura 2000 Sites. Marine Institute.
- Marlin.ac.uk
- 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

2.6 Assumptions made for Appropriate Assessment Reports

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

- All 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, at a minimum.
- All aquaculture applications which were submitted prior to those being considered here, but may still pending decisions (e.g., appealed to Aquaculture Licence Appeals Board- ALAB), are also assumed to be fully operational across the entire area of the relevant sites. This ensures a conservative approach, in that it assumes these activities will be will be operational to the maximum extent possible.
- Where multiple species might be proposed to be cultured at a site, the assessment assumes that the species most likely to result in the greatest likely ecological effects on the surrounding environment will be the culture species considered. Furthermore, it will be assessed on the basis 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 clearly communicated in the AA report.

3 Appropriate Assessment Screening

This document assesses the potential effects of the proposed extensive aquaculture activities in combination with existing aquaculture activities on the Qualifying Interests (QIs) of the Valentia Harbour/Portmagee Channel SAC [002262], among others. Extensive aquaculture is defined in Regulation 3(iii) of the Aquaculture (Licence Applications) (Amendment) Regulations 2018 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, finfish aquaculture does not.

The aim of this report is to consider if the proposed aquaculture activity is likely to significantly affect the QIs of Natura 2000 sites in view of their Conservation Objectives (COs). This is achieved by following a screening process. If there is potential for the activities considered to likely significant effect QIs and their conservation features, they will be carried forward for full assessment in subsequent sections and considered on a cumulative basis with other aquaculture activities and other potentially disturbing activities (e.g. fisheries).

This document considers the potential ecological interactions between the proposed extensive aquaculture activities and the Conservation Objectives (COs) of the Valentia Harbour/Portmagee Channel SAC [002262], among others.

3.1 Overview of Existing and Proposed Aquaculture Activities in the Valentia Harbour/Portmagee Channel SAC

Currently within the Valentia Harbour/Portmagee Channel SAC [002262] there are 13 sites at different stages within the licencing process (Table 3-1 and Figure 1). There are 2 additional sites (T06- 416A and T06-518A) that lie outside the boundaries of the SAC but are within the Valentia Harbour system (i.e., Ferta River Estuary):

- 5 Licensed sites:
  - 5 intertidal shellfish sites for culture of Pacific oysters (T06-366A, T06-374A, T06-416A, T06-389A and T06-365A)
- 10 Applications sites:
  - 10 sites for intertidal shellfish culture of Pacific oysters (T06-503A, T06-461A, T06-514A, T06-502A, T06-515A, T06-521A, T06-517A, T06-509A, T06-450A, T06-518A)

Table 3-1 Licenced aquaculture and applications for aquaculture activities considered in this report.

Site No.	Status	Activity/Species	Total Area (ha.)	Occurring with Site 002262
T06-366A	Licensed	Pacific Oyster	6.0	Yes
T06-374A	Licensed	Pacific Oyster	7.64	Yes
T06-416A*	Licensed	Pacific Oyster	1.56	No
T06-389A	Licensed	Pacific Oyster	5.59	Yes
T06-365A	Licensed	Pacific Oyster	5.65	Yes
T06-503A	Application	Pacific Oyster	4.55	Yes
T06-461A	Application	Pacific Oyster	9.64	Yes
T06-514A	Application	Pacific Oyster	4.93	Yes
T06-502A	Application	Pacific Oyster	4.77	Yes
T06-515A	Application	Pacific Oyster	1.0	Yes
T06-521A	Application	Pacific Oyster	2.28	Yes
T06-517A	Application	Pacific Oyster	10.37	Yes
T06-509A	Application	Pacific Oyster	12.1	Yes
T06-450A	Application	Pacific Oyster	8.47	Yes
T06-518A*	Application	Pacific Oyster	3.52	No

* *These sites are not within the SAC but within the Valentia River system*.

Existing and proposed aquaculture sites are presented in Figure 1.

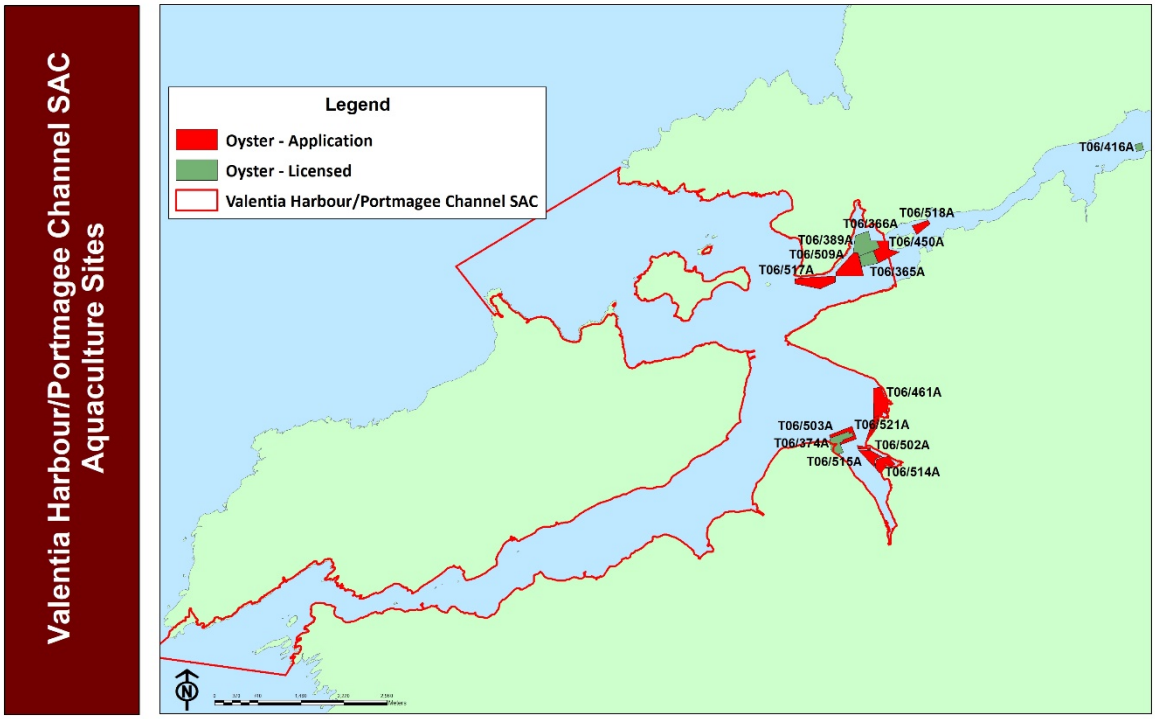


Figure 1 Existing and proposed aquaculture sites (Licenced and Applications) in Valentia Harbour/Portmagee Channel SAC (and surrounds).

3.1.1 Extensive Oyster Culture

Oyster farming in Valentia takes place in the intertidal zone using the standard bag and trestle culture method as employed across Europe and the world. Cultivation of the Pacific oyster (*Magallana gigas*) is carried out by growing oysters in mesh bags placed on steel trestles to keep them elevated above the seabed. Oysters are not artificially fed nor do they receive any medicinal treatments. They are filter feeders relying completely on the natural environment for food, and consume phytoplankton when submerged during high tide periods. Water quality conditions are considered important for successful shellfish culture.

Currently Valentia Harbour is used for the production of half-grown oysters which are harvested at this size and finished in other bays both in Ireland and in France. The production cycle begins in Valentia when triploid G6 seed is introduced from the French hatchery, France Nissan. Production takes 18-24 months on site.

Upon receipt from the hatchery, seed is placed in the mesh plastic bags with mesh size and stocking density appropriate to the seed grade. As the oysters grow stocking densities are reduced. Bag sizes used on site are 2mm to 9mm.

Grading takes place annually between October and April. Grading and harvesting activities entails actually removing the bags from the inter-tidal zone to a land based site. They are collected by hand, loaded onto trailers and transported by tractor.

Maintenance activities on-site include shaking and turning of bags, which are shaken and turned on site. Tractor movements in this instance are for the transport of staff to and from site.

Harvesting occurs between September and June and involves hand placing of the bags on tractor and trailer to be brought ashore.

3.1.2 Access Routes

There are a number of access routes for the operators in the area to the applied licensed sites. For the sites in the northern portion of the SAC, frequency of site access is every day by tractor along the margin of upper shore and land from Ballycarbery Castle to the site. These habitats are typically hard packed sand. Other oyster culture sites have direct access from land with little or no access along the shore outside of licenced areas. Access to sites the Derreen River is along the shore or directly from land. It is proposed that, two sites (T06-461A, T06-521A) will be accessed by boat only from a launch point near the mouth of the Derreen River.

Calculation of area of the access routes in the SAC is linear length (in metres) by a putative route width of 10m, which is considered a sufficiently precautionary estimate, which gives a total spatial overlap of 3.07ha (Figure 2).

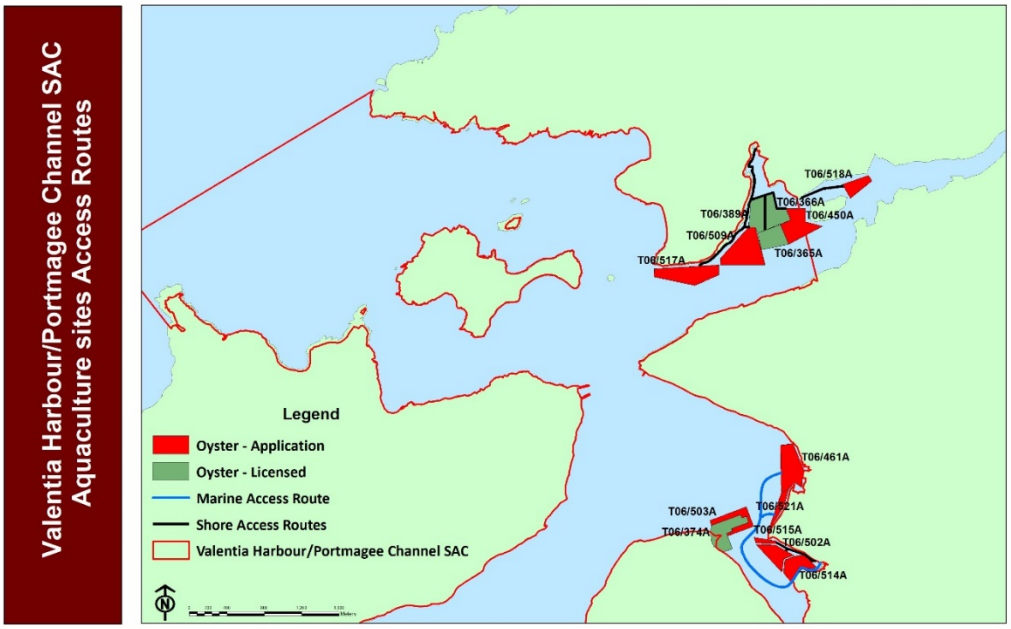


Figure 2 Existing and proposed access routes to the existing and proposed shellfish culture sites within the Valentia Harbour/Portmagee Channel SAC.

3.2 Structure of this Report

This report addresses the Stage 1: Appropriate Assessment (AA) Screening for existing and proposed extensive aquaculture operations within Valentia Harbour/Portmagee Channel SAC. AA Screening is undertaken to identify potential likely significant effects on QIs of Natura 2000 sites. Where the screening exercise cannot exclude on the basis of objective information that the aquaculture activity proposed, will have a likely significant effect on conservation features, the activity is brought forward for further consideration in Stage 2 AA.

3.2.1 Additional Information and Data Sources

This AA which has followed relevant DEHLG (DEHLG, 2009) and OPR (OPR, 2021) guidance has drawn on information from a number of sources, the principal sources are outlined below.

- The DAFM Aquaculture Viewer (AQUAMIS) – all data on aquaculture sites and Annex I marine habitats.
- Publicly available data and mapping from NPWS on Marine Habitats QIs and marine community types.
- BIM, 2014. A profile report on the existing and proposed aquaculture practices in Valentia Harbour (unpublished report).
- Publicly available data from NPWS on Annex II marine species conservation features.
- NPWS. 2012a. Valentia Harbour/Portmagee Channel SAC (001482): Conservation Objectives Department Arts, Heritage and the Gaeltacht. Version 1 (October 2012); 9pp.
- NPWS. 2012b. Valentia Harbour/Portmagee Channel SAC (001482): Conservation Objectives supporting document – marine habitats and species. Department Arts, Heritage and the Gaeltacht. Version 1 (August 2012); 29pp.
- The spatial data for conservation features provided by NPWS (Site-specific Conservation Objectives)
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill.

3.3 Identification of Relevant Natura 2000 Sites and QIs

A key consideration as to whether or not an activity is likely to adversely affect Natura 2000 QI is if there is a pathway of connectivity between the QI and the source[s] of potential impacts associated with the activity. The QIs of the Valentia Harbour/Portmagee Channel SAC [002262] (and other Natura sites) could be at risk of significant 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. It is important to note the link can be direct and facilitated by terrestrial, aquatic and airborne action of a particular pressure on the feature. In addition, 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 (OPR 2021). Identifying such pathways will facilitate the identification of Natura 2000 sites likely to be impacted by the proposed activities.

3.3.1 Valentia Harbour/Portmagee Channel SAC – Qualifying Interests

Of the 10 application sites considered for extensive shellfish culture, 9 occur within the Valentia Harbour/Portmagee Channel SAC (see Table 3-1). Valentia Harbour/Portmagee Channel SAC comprises the entirety of the waters inside Valentia Island encompassing islands at the northern (Doolus Bay) and southern (Bray Head) opening to the ocean. The Natura site is comprised of a wide range of intertidal and subtidal habitats, including mudflats and sandflats not covered by seawater at low tide, large shallow inlets and bays as well reefs (Figure 4-1).

The SAC is formally designated for the following habitats (NPWS 2012a,b), as listed in Annex I and II of the Habitats Directive:

- 1140 - Mudflats and sandflats not covered by seawater at low tide
- 1160 - Large shallow inlets and bays
- 1170 - Reefs

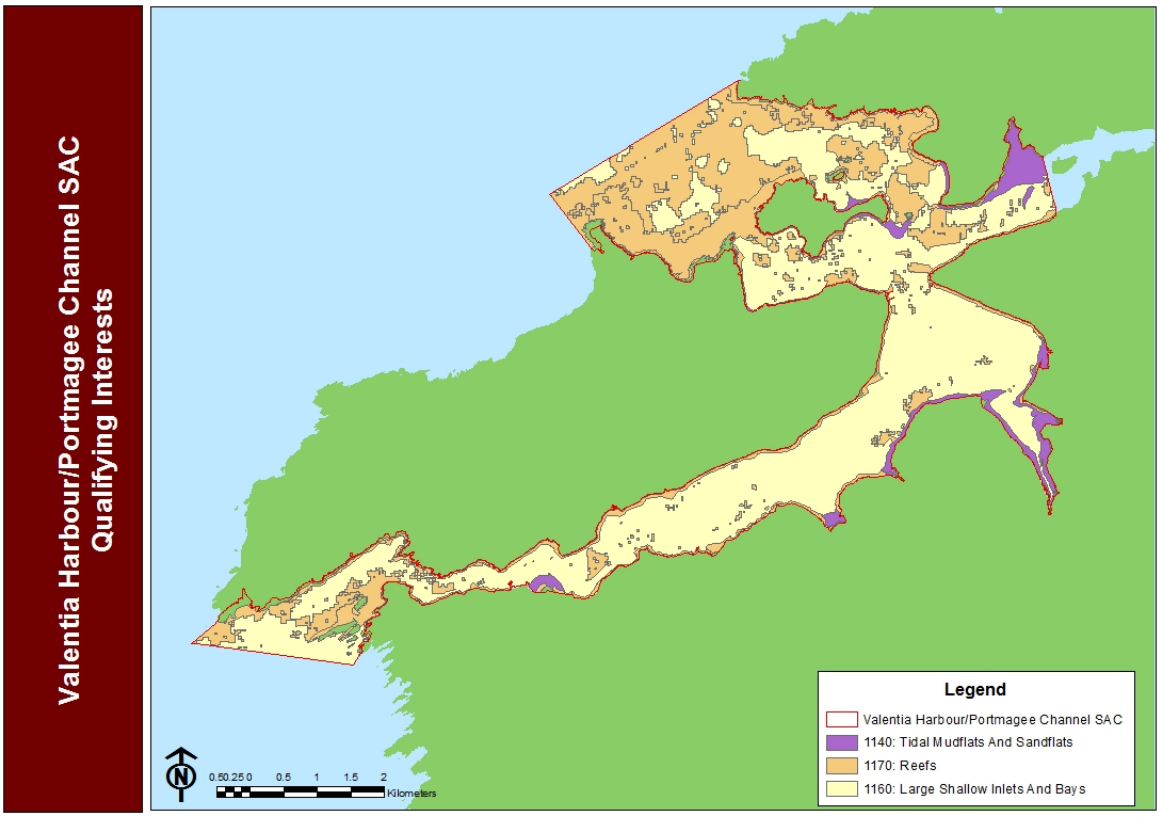


Figure 3 The extent of Valentia Harbour/Portmagee Channel SAC (site code 002262) with constituent qualifying interests (QI).

3.3.2 Conservation objectives for Valentia Island/Portmagee Channel SAC

The conservation objectives for the qualifying interests (SAC) were identified in NPWS (2012a,b). The natural condition of the designated features should be preserved with respect to their area, distribution, extent and community distribution. Habitat availability should be maintained for designated species and human disturbance should not adversely affect such species. The features, objectives and targets of each of the qualifying interests within the SAC are listed in Table 3-2 below.

Of particular importance is the presence within the feature Large Shallow Inlet and Bay of 3 highly sensitive community types. Two communities, 'Mearl-dominated' and '*Zostera*-dominated', are considered important because to the biogenic structures they provide and the broad range of species which can be found therein; they are considered of high biodiversity value. The third community type, '*Edwardsia delapiae* associated community' is not only important for being the type location of this species; it also harbours a rich infaunal community. These community types are considered important in terms of the structure and function they provided to this Natura site.

Table 3-2 Conservation objectives and targets for marine habitats and species in Valentia Harbour/Portmagee Channel SAC (0002262) (NPWS 2012a,b). Annex I and II features listed in bold.

FEATURE (COMMUNITY TYPE)	**OBJECTIVE**	**TARGET**
MUDFLATS AND SANDFLATS NOT COVERED BY SEAWATER AT LOW TIDE	Maintain favourable conservation condition	123 ha; Permanent habitat is stable or increasing, subject to natural processes
INTERTIDAL SAND WITH NEMATODES AND POLYCHAETES COMMUNITY COMPLEX	Maintain favourable conservation condition	111 ha; Maintained in a natural condition
MEDIUM TO FINE SAND WITH *NEPHTYS CIRROSA* AND *SPIOPHANES BOMBYX* COMMUNITY COMPLEX	Maintain favourable conservation condition	12 ha; Maintained in a natural condition
LARGE SHALLOW INLETS AND BAYS	Maintain favourable conservation condition	2629 ha; Targets are identified that focus on a wide range of attributes with the ultimate goal of maintaining function and diversity of favourable species and managing levels of negative species.
INTERTIDAL SAND WITH NEMATODES AND POLYCHAETES COMMUNITY COMPLEX	Maintain favourable conservation condition	111ha; Maintained in a natural condition
MEDIUM TO FINE SAND WITH *NEPHTYS CIRROSA* AND *SPIOPHANES BOMBYX* COMMUNITY COMPLEX	Maintain favourable conservation condition	294ha; Maintained in a natural condition
MAËRL-DOMINATED COMMUNITY	Maintain favourable conservation condition	59ha; Conserve high quality of this community
ZOSTERA-DOMINATED COMMUNITY	Maintain favourable conservation condition	6ha; Conserve high quality of this community
EDWARDSIA DELAPIAE ASSOCIATED COMMUNITY	Maintain favourable conservation condition	2ha; Conserve high quality of this community
COARSE SEDIMENT WITH *PISIONE REMOTA* COMMUNITY COMPLEX	Maintain favourable conservation condition	130ha; Maintained in a natural condition
SANDY MUD TO MIXED SEDIMENT WITH *MELINNA PALMATA* COMMUNITY COMPLEX	Maintain favourable conservation condition	359ha; Maintained in a natural condition.
MIXED SEDIMENT WITH *CHAETOZONE GIBBER* COMMUNITY COMPLEX	Maintain favourable conservation condition	715ha; Maintained in a natural condition
FUCUS-DOMINATED INTERTIDAL REEF COMMUNITY COMPLEX	Maintain favourable conservation condition	127ha; Maintained in a natural condition
LAMINARIA-DOMINATED COMMUNITY	Maintain favourable conservation condition	451ha; Maintained in a natural condition
ECHINODERM-DOMINATED REEF COMMUNITY COMPLEX	Maintain favourable conservation condition	374ha; Maintained in a natural condition
REEF	Maintain favourable conservation condition	953ha; Targets are identified that focus on a wide range of attributes with the ultimate goal of maintaining function and diversity of favourable species and managing levels of negative species.

FEATURE (COMMUNITY TYPE)	OBJECTIVE	TARGET
FUCUS-DOMINATED INTERTIDAL REEF COMMUNITY COMPLEX	Maintain favourable conservation condition	127 ha; Maintained in a natural condition
LAMINARIA-DOMINATED COMMUNITY	Maintain favourable conservation condition	451 ha; Maintained in a natural condition
ECHINODERM-DOMINATED REEF COMMUNITY COMPLEX	Maintain favourable conservation condition	374 ha; Maintained in a natural condition

3.4 Identification of Adjacent Natura sites for *ex-situ* effects

In addition to the Valentia Harbour/Portmagee Channel SAC there a number of other Natura 2000 sites which are proximate to the proposed activities (Figure 4) or may have some potential via a S-P-R link to interact with the activities proposed.

The screening of adjacent Natura sites is carried out to determine if the proposed activity is likely to impact on the QIs of these 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 from the proposed activity. While this guide value of 15 km can inform for habitats and also, for species with defined ranges, they may not apply to migratory species (e.g. some fishes or mammals) or those with large foraging ranges (e.g. birds and mammals). Such species may interact with the proposed activities as a result of the structures along their migratory route or impacting on their foraging behaviour. It is important such species are identified and should be considered on a case-by-case basis. On the basis that the proposed activities occur in more than one area within Valentia Harbour and that the areal cover is reasonably high, the potential interaction with a wide range of species is possible. Therefore, all QIs for SPAs within 50 km of the proposed development site are considered in the screening. A list of Natura 2000 sites identified using these selection criteria is identified in Table 3-3 and Figure 4..

Table 3-3 List and details of Natura sites adjacent to the area of the proposed activity.

Natura site - Site Code	Approximate distance between proposed aquaculture activity and Natura site (at nearest point) (km)
SAC (15 km)	
Killarney National Park, Macgillycuddy's Reeks And Caragh River Catchment SAC - 000365	7.0 km
Ballinskelligs Bay and Inny Estuary SAC - 000335	9.7 km
SPA (50 km)	
Iveragh Peninsula SPA - 004154	1.0 km
Puffin Island SPA - 004003	12.3 km
Castlemaine Harbour SPA - 004029	20.19 km
Dingle Peninsula SPA - 004153	20.1km
Deenish Island and Scariff Island SPA - 004175	20.8 km
Skelligs SPA - 004007	22.1 km
Blasket Islands SPA - 004008	24.0 km
Beara Peninsula SPA - 004155	31.7 km
The Bull And The Cow Rocks SPA - 004066	35.4 km
Tralee Bay Complex SPA - 004188	38.8 km
Eirk Bog SPA - 004108	41.98 km
Killarney National Park SPA - 004038	44.4 km
Magharee Islands SPA - 004125	45.2 km

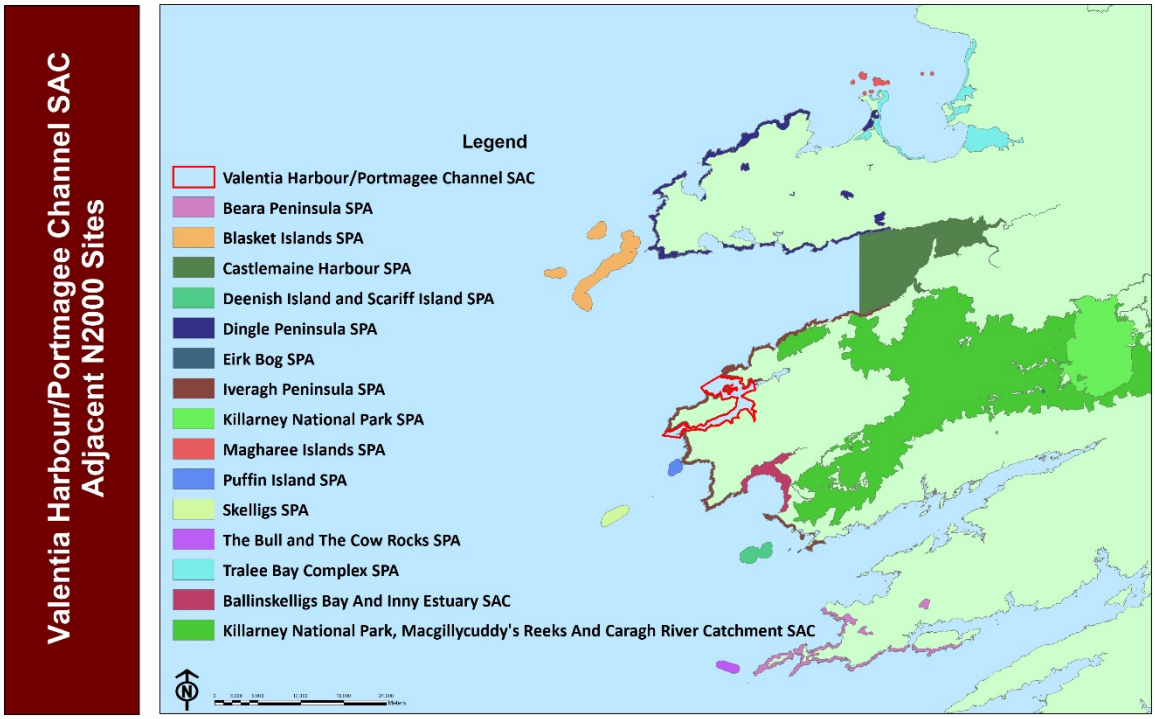


Figure 4 Natura 2000 sites considered as adjacent to proposed aquaculture activities in Valentia Harbour/Portmagee Channel SAC.

The characteristic features of these sites are identified below where a screening assessment is carried out on the likely interaction with aquaculture activities based primarily upon the likelihood of spatial overlap and/or the existence of and S-P-R link. Screening outcomes in relation to the proposed activities are outlined.

3.5 Screening of QIs of Valentia Harbour/Portmagee Channel SAC [002262]

A screening assessment is an initial evaluation of the existence of Source Pathway Response (S-P-R) links between the proposed activities resulting in a likely adverse effects on the QIs. The screening exercise is a filter, which may lead to exclusion of certain activities or qualifying interests from appropriate assessment proper, thereby simplifying the assessments, if this can be justified unambiguously using clear criteria. Screening is a conservative filter that minimises the risk of false negatives.

In this assessment screening of habitat QIs against the proposed activities is, in the first instance, considered on the basis of direct spatial overlap i.e. if the qualifying interests overlap spatially with the proposed activities then significant impacts due to these activities on the conservation objectives for the qualifying interests are not discounted (not screened out) except where there is absolute and clear rationale for doing so. Where there is spatial overlap and reasonable potential for likely significant effects on QIs to arise, a full assessment (Stage 2) is warranted. In the instance that there is no spatial overlap between an activity (direct links) and a QI and no likely indirect interactions apparent, then likely significant effects can be discounted and the activity may be screened out. If there is marginal spatial overlap but no reasonable potential for significant effects on QIs to

arise, then the activity also be screened out on the basis of objective consideration. 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 effects facilitated by hydrological or other links.

The following section provides spatial overlap extent between designated habitat features and aquaculture activities within the qualifying interests of Valentia Harbour/Portmagee Channel SAC.

3.6 Aquaculture Activity Screening

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. Table 3-4 highlights the spatial overlap between (existing and proposed) aquaculture activities and the qualifying interests of Site 2262 (i.e. Large Shallow Inlet and Bay, Mudflat and Sandflats not covered by seawater at low tide and Reefs).

The screening is largely based on spatial overlap. This is due to the fact that the proposed activities are extensive aquaculture activities, as proposed, have been have demonstrated to result in accumulation of organic matter beneath culture structures (Chamberlain et al 2001; Wilding 2012) in marine habitats, however, negative impacts on benthic community composition have not been fully demonstrated (Wilding and Nickell 2013) or are considered negligible and confined very closely to the footprint of the structures (Chamberlain et al 2001; Christensen et al., 2003; Crawford et al., 2003; see review by McKindsey et al 2007; Forde et al., 2015; O'Carroll et al., 2016; Casado-Coy et al., 2022; Sean et al 2022). Any effects on marine habitats from suspended shellfish culture is generally confined to the area beneath the structures. On this basis, there is unlikely to be a hydrological link from this immediate area to distant habitats.

Access to extensive culture sites, particularly using vehicles over the foreshore, can also present a potential risk of adverse effects on marine species and communities (Forde et al., 2015; O'Carroll et al., 2016). In the Valentia Harbour/Portmagee Channel SAC, operators access the existing and proposed culture sites using a combination of boats and tractors across the shore to farm areas. Calculation of area of access routes across the shore in the SAC is generated by assigning a putative route width of 10m, which is considered a sufficiently precautionary estimate. The resulting estimates represent the maximum length of travel route to/from and between the culture locations. The spatial coverage of access routes on QI habitats is also presented in Table 3-4.

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Table 3-4: Spatial extent of aquaculture activities overlapping with the qualifying interests (QI) 1140-Mudflats and sandflats not covered by seawater at low tide, 1160-Large shallow inlets and bays and 1170-Reefs in Valentia Harbour/Portmagee Channel SAC, presented according to culture species, location and license status.

Site ID	Species	Status	Location	1140 - Mudflats and sandflats not covered by seawater at low tide 123 ha		1160 - Large shallow inlets and Bays 2629 ha		1170 - Reefs 953 ha	
				Area (ha)	*% QI*	Area (ha)	*% QI*	Area (ha)	*% QI*
T06-366A	Oyster	Licensed	Intertidal	6.00	4.88	6.00	0.23		
T06-374A	Oyster	Licensed	Intertidal	4.58	3.72	7.64	0.29		
T06-416A*	Oyster	Licensed	Intertidal	0	0	0	0	0	0
T06-389A	Oyster	Licensed	Intertidal	5.59	4.54	5.59	0.21		
T06-365A	Oyster	Licensed	Intertidal	2.63	2.14	5.65	0.21		
T06-503A	Oyster	Application	Intertidal	0.46	0.37	4.55	0.17	0.11	0.01
T06-461A	Oyster	Application	Intertidal	3.48	2.83	9.64	0.37	0.38	0.04
T06-514A	Oyster	Application	Intertidal	4.89	3.98	4.93	0.19		0.00
T06-502A	Oyster	Application	Intertidal	0.74	0.60	4.77	0.18		0.00
T06-515A	Oyster	Application	Intertidal	0.73	0.59	1.00	0.04	0.14	0.01
T06-521A	Oyster	Application	Intertidal	0.96	0.78	2.28	0.09	0.41	0.04
T06-517A	Oyster	Application	Intertidal	0.30	0.24	10.40	0.40	2.13	0.22
T06-509A	Oyster	Application	Intertidal	4.29	3.49	12.10	0.46	0.22	0.02
T06-450A	Oyster	Application	Intertidal	4.43	3.60	6.60	0.25	0.34	0.04
T06-518A*	Oyster	Application	Intertidal	0	0	0	0	0	0
Access Routes				2.64	2.15	3.07	0.12	0.43	0.05

***** *These sites are not within the SAC but within the Valentia River system***.**

On the basis of spatial overlap with the proposed activities, the likely significant effects on QIs cannot be discounted at this stage and, therefore, the following QIs from the Valentia Harbour/Portmagee Channel SAC are carried forward for further consideration:

- Annex I Habitat 1140 - Mudflats and sandflats not covered by seawater at low tide
- Annex I Habitat 1160 - Large shallow inlets and bays
- Annex I Habitat 1170 – Reefs

3.6.1 Screening of QIs 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 these sites. It is primarily based upon indirect links between the proposed activity and those QIs.

Table 3-5 shows the relevant QIs and their conservation objectives for adjacent SACs, along with their screening outcome.

Table 3-5 SAC Sites adjacent to Valentia Harbour/Portmagee Channel SAC and qualifying features with initial screening assessment on likely interactions with proposed aquaculture activities.

Natura site	QIs and Conservation Features	Conservation Objectives	Aquaculture Screening
Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365) [9]	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	To restore favourable conservation condition of oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)	The Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is located approximately 5.0 km from the closest boundary of the proposed aquaculture operations in Valentia Harbour. Given the predominantly terrestrial and freshwater nature of many of the QIs in this SAC and that there is no spatial overlap or likely interactions identified between aquaculture activities in Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365), it is considered that there is not clear "source-path-receptor" interactions with these Annex I Habitats or Annex II Species and therefore, no likely significant effects posed by the intertidal extensive shellfish aquaculture on the QIs of this Natura 2000 site. **Likely significant effects on these QIs can be discounted**
	Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130]	To restore favourable conservation condition of oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*	
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	To maintain favourable conservation condition of water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	
	Northern Atlantic wet heaths with *Erica tetralix* [4010]	To restore favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix*	
	European dry heaths [4030]	To restore favourable conservation condition of European dry heaths	
	Alpine and Boreal heaths [4060]	To restore favourable conservation condition of Alpine and Boreal heaths	
	Juniperus communis formations on heaths or calcareous grasslands [5130]	To maintain favourable conservation condition of *Juniperus communis* formations on heaths or calcareous grasslands	
	Calaminarian grasslands of the *Violetalia calaminariae* [6130]	To maintain favourable conservation condition of Calaminarian grasslands of the *Violetalia calaminariae*	
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	To restore favourable conservation condition of *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	
	Blanket bogs (* if active bog) [7130]	To restore favourable conservation condition of Blanket bogs (* if active bog)	

[9] https://www.npws.ie/protected-sites/sac/002262

Natura site	QIs and Conservation Features	Conservation Objectives	Aquaculture Screening
	Depressions on peat substrates of the *Rhynchosporion* [7150]	To restore favourable conservation condition of Depressions on peat substrates of the *Rhynchosporion*	
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	To restore favourable conservation condition of Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0]	To restore favourable conservation condition of Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)	
	Taxus baccata woods of the British Isles [91J0]	To restore favourable conservation condition of *Taxus* baccata woods of the British Isles	
	Geomalacus maculosus (Kerry Slug) [1024]	To maintain favourable conservation condition of *Geomalacus maculosus* (Kerry Slug)	
	Euphydryas aurinia (Marsh Fritillary) [1065]	To restore favourable conservation condition of *Euphydryas aurinia* (Marsh Fritillary)	
	Trichomanes speciosum (Killarney Fern) [1421]	To maintain favourable conservation condition of *Trichomanes speciosum* (Killarney Fern)	
	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	To maintain favourable conservation condition of *Rhinolophus hipposideros* (Lesser Horseshoe Bat)	
	Najas flexilis (Slender Naiad) [1833]	To maintain favourable conservation condition of *Najas flexilis* (Slender Naiad)	
	Alosa fallax killarnensis (Killarney Shad) [5046]	To restore favourable conservation condition of *Alosa fallax killarnensis* (Killarney Shad)	Killarney Shad are resident species of Lough Leane, a land- locked lake in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC. Due to the lack of spatial connectivity between the habitat of the Shad and the Kenmare River SAC, the Killarney Shad can be screened out from further consideration in this document. **Likely significant effects on these QIs can be discounted**
	Petromyzon marinus (Sea Lamprey) [1095]	To maintain favourable conservation condition of *Petromyzon marinus* (Sea Lamprey	The conservation objectives for these three QIs in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is to maintain the favourable conservation condition through: • Distribution • Population structure of juveniles • Juvenile density in fine sediment
	Lampetra planeri (Brook Lamprey) [1096]	To maintain favourable conservation condition of *Lampetra planeri* (Brook Lamprey)	

Natura site	QIs and Conservation Features	Conservation Objectives	Aquaculture Screening
	Lampetra fluviatilis (River Lamprey) [1099])	To maintain favourable conservation condition of *Lampetra fluviatilis* (River Lamprey)	• Extent and distribution of spawning habitat • Availability of juvenile habitat The majority of these attributes are focused on the conservation of the juvenile life stage of the lampreys which occurs in the freshwater rivers of the SAC. The Brook Lamprey is the smallest of the native Irish lampreys, a non-parasitic lamprey that spends its entire life cycle in freshwater. The River Lamprey similarly carries out most of its life cycle in freshwater. Sea lamprey migrate from the freshwater to marine waters to continue to grow feeding on marine fish. With regards to conserving distribution of the lamprey, migration can be blocked or limited by artificial barriers in the waterways which would limit access to spawning grounds (upstream in the Laune catchment). The proposed aquaculture site is completely marine and 5.44 km from the nearest boundary of the SAC and would not physically impede lamprey migration. Due to the lack of spatial connectivity between the habitat of the juvenile life stage of the lamprey and the proposed activities in Valentia Harbour and the lack of barriers that would impede on the distribution of lamprey during migratory periods, Sea Lamprey, Brook Lamprey and River Lamprey can be screened out from further consideration in this document. **Likely significant effects on these QIs can be discounted.**
	Salmo salar (Salmon) [1106]	To maintain favourable conservation condition of *Salmo salar* (Salmon)	The conservation objectives for this feature in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is to maintain the favourable conservation condition through: • Distribution: extent of anadromy • adult spawning fish • Salmon fry abundance • Out-migrating smolt abundance • Number and distribution of redds • Water quality The proposed activities are confined to intertidal areas in Valentia Harbour, are outside of any riverine channel and therefore, do not pose a barrier to migrating fish or likely impact on the conservation features of Salmon. **Likely significant effects on this QI can be discounted.**
	Lutra lutra (Otter) [1355]	To maintain favourable conservation condition of *Lutra lutra* (Otter)	The conservation objectives for this feature in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is to maintain the favourable conservation condition through: • Distribution (assume terrestrial, marine and freshwater) • Extent of terrestrial habitat • Extent of marine habitat • Extent of freshwater (river) habitat • Extent of freshwater (lake/lagoon) habitat

Natura site	QIs and Conservation Features	Conservation Objectives	Aquaculture Screening
			• Couching sites and holts • Fish Biomass available • Barriers to connectivity The proposed culture operations are likely to be carried out in daylight hours. The interaction with and hence disturbance on the otter is likely to be minimal, given that otter foraging is primarily crepuscular. The current conservation status of otter nationally is favourable and that aquaculture practices are not identified of threats either locally or nationally (NPWS, 2019). Otters tend to forage within 80 m of the shoreline and will commute across stretches of open water up to 500 m. As the boundary of the SAC is greater than 5 km from the aquaculture site, the lack of spatial overlap or likely interactions between this QI and the aquaculture activities, otter is excluded from further analysis. **Likely significant effects on this QI can be discounted.**
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	To maintain favourable conservation condition of *Margaritifera margaritifera* (Freshwater Pearl Mussel)	The conservation objectives of this feature in the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC: • Distribution • Population size • Population structure: recruitment • Population structure: adult mortality • Suitable habitat: extent • Suitable habitat: condition • Water quality: macroinvertebrate and phytobenthos (diatoms) • Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants) • Substratum quality: sediment • Substratum quality: oxygen availability • Substratum quality: oxygen availability • Hydrological regime: flow variability • Host fish • Fringing habitat: area and condition Given the lack of spatial overlap with the defined habitats of this QIs and the proposed intertidal activity and that these activities do not pose a barrier to migrating host fish, **Likely significant effects on this QI can be discounted.**
Ballinskelligs Bay and Inny Estuary SAC (000335)[10]	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	To maintain favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	The Ballinskelligs Bay and Inny Estuary SAC is approx. 7 km from the closest proposed aquaculture site. Given the predominantly terrestrial and freshwater nature of this SAC and that there is no spatial overlap or likely interactions identified between intertidal aquaculture activities in Valentia Harbour, it is considered that there is not clear "source-path-receptor" interactions and therefore no significant effects posed by the shellfish
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	To maintain favourable conservation condition of Mediterranean salt meadows (*Juncetalia maritimi*)	

[10] https://www.npws.ie/protected-sites/sac/000335

Natura site	QIs and Conservation Features	Conservation Objectives	Aquaculture Screening
	Petalophyllum ralfsii (*Petalwort*) [1395]	To restore favourable conservation condition of Petalophyllum ralfsii (*Petalwort*)	aquaculture on the QIs of this Natura 2000 site. **Likely significant effects on these QIs can be discounted.**

Table 3-6 shows the relevant qualifying features for SPAs adjacent (within 50Km) to the Valentia Harbour/Portmagee Channel SAC and qualifying features for those SPAs. The relevant QIs are identified here, and are assessed individually in the table that follows.

Table 3-6 SPA Sites adjacent (within 50Km) to Valentia Harbour/Portmagee Channel SAC and qualifying features

Natura Site	Qualifying Feature [Species Code]
Iveragh Peninsula SPA[11] [004154]	Fulmar (*Fulmarus glacialis*) [A009] Peregrine (*Falco peregrinus*) [A103] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Chough (*Pyrrhocorax pyrrhocorax*) [A346]
Puffin Island SPA[12] [004003]	Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Storm Petrel (*Hydrobates pelagicus*) [A014] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204] Lesser Black-backed Gull *(Larus fuscus*) [A183]

[11] NPWS (2022). *Conservation objectives for Iveragh Peninsula SPA [004154]. First Order Site specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[12] NPWS (2022). *Conservation objectives for Puffin Island SPA [004003]. First Order Site-specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

Natura Site	Qualifying Feature [Species Code]
Castlemaine Harbour SPA[13] [004029]	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] Wigeon (*Anas penelope*) [A050] Mallard (*Anas platyrhynchos*) [A053] Pintail (*Anas acuta*) [A054] Scaup (*Aythya marila*) [A062] Common Scoter (*Melanitta nigra*) [A065] Ringed Plover (*Charadrius hiaticula*) [A137] Sanderling (*Calidris alba*) [A144] Bar-tailed Godwit (*Limosa lapponica*) [A157] Redshank (*Tringa totanus*) [A162] Greenshank (*Tringa nebularia*) [A164] Turnstone (*Arenaria interpres*) [A169] Oystercatcher (*Haematopus ostralegus*) [A130] Red-throated Diver (*Gavia stellata*) [A001] Cormorant (*Phalacrocorax carbo*) [A017] Chough (*Pyrrhocorax pyrrhocorax*) [A346] Wetland and Waterbirds [A999]
Dingle Peninsula SPA[14] [004153]	Fulmar (*Fulmarus glacialis*) [A009] Peregrine (*Falco peregrinus*) [A103] Chough (*Pyrrhocorax pyrrhocorax*) [A346]
Deenish Island and Scariff Island SPA[15] [004175]	Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Storm Petrel (*Hydrobates pelagicus*) [A014] Lesser Black-backed Gull (*Larus fuscus*) [A183] Arctic Tern (*Sterna paradisaea*) [A194]
Skelligs SPA[16] [004007]	Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Storm Petrel (*Hydrobates pelagicus*) [A014] Gannet (*Morus bassanus*) [A016] Kittiwake (*Rissa tridactyla*) [A188] Guillemot (*Uria aalge*) [A199] Puffin (*Fratercula arctica*) [A204]

[13] NPWS (2011). *Conservation Objectives: Castlemaine Harbour SAC 000343 and Castlemaine Harbour SPA 004029. Version 2.0.* National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

[14] NPWS (2022). *Conservation objectives for Dingle Peninsula SPA [004153]. First Order Site specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[15] NPWS (2022). *Conservation objectives for Deenish Island and Scariff Island SPA [004175]. First Order Site-specific Conservation Objectives Version 1.0*. Department of Housing, Local Government and Heritage.

[16] NPWS (2022). *Conservation objectives for Skelligs SPA [004007]. First Order Site-specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

Natura Site	Qualifying Feature [Species Code]
Blasket Island SPA[17] [004008]	Fulmar (*Fulmarus glacialis*) [A009] Manx Shearwater (*Puffinus puffinus*) [A013] Storm Petrel (*Hydrobates pelagicus*) [A014] Shag (*Phalacrocorax aristotelis*) [A018] Kittiwake (*Rissa tridactyla*) [A188] Arctic Tern (*Sterna paradisaea*) [A194] Razorbill (*Alca torda*) [A200] Puffin (*Fratercula arctica*) [A204] Chough (*Pyrrhocorax pyrrhocorax*) [A346] Lesser Black-backed Gull (*Larus fuscus*) [A183] Herring Gull (*Larus argentatus*) [A184]
Beara Peninsula SPA[18] [004155]	Fulmar (*Fulmarus glacialis*) [A009] Chough (*Pyrrhocorax pyrrhocorax*) [A346]
The Bull and The Cow Rocks SPA[19] [004066]	Storm Petrel (*Hydrobates pelagicus*) [A014] Gannet (*Morus bassanus*) [A016] Puffin (*Fratercula arctica*) [A204]
Tralee Bay Complex SPA[20] [004188]	Whooper Swan (Cygnus cygnus) [A038] Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Mallard (Anas platyrhynchos) [A053] Pintail (Anas acuta) [A054] Scaup (Aythya marila) [A062] Oystercatcher (Haematopus ostralegus) [A130] Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Sanderling (Calidris alba) [A144] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Turnstone (Arenaria interpres) [A169] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Wetland and Waterbirds [A999]

[17] NPWS (2022). *Conservation objectives for Blasket Islands SPA [004008]. First Order Site specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[18] NPWS (2022). *Conservation Objectives: Beara Peninsula SPA 004155. Version 1.* National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

[19] NPWS (2022). *Conservation objectives for The Bull and The Cow Rocks SPA [004066]. First Order Site-specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[20] NPWS (2014). Conservation objectives Series Tralee Bay Complex SPA [004188]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

Natura Site	Qualifying Feature [Species Code]
Eirk Bog SPA[21] [004108]	Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]
Killarney National Park SPA[22] [004038]	Merlin (*Falco columbarius*) [A098] Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]
Magharee Islands SPA[23] [004125]	Storm Petrel (Hydrobates pelagicus) [A014] Shag (Phalacrocorax aristotelis) [A018] Barnacle Goose (Branta leucopsis) [A045] Common Gull (Larus canus) [A182] Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] Little Tern (Sterna albifrons) [A195]

Table 3-7 gives the screening assessment for the identified QIs for the SPAs adjacent to the Valentia Harbour/Portmagee Channel SAC (within 50Km) and presents the screening outcome.

Table 3-7 Screening outcomes for the QIs of the SPAs adjacent to site.

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Fulmar (*Fulmarus glacialis*) [A009]	1 km - Iveragh Peninsula SPA	On the basis that the species will nest in isolated areas or on sea cliffs and that they primarily forage offshore, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. Therefore, **likely significant effects on this bird species can be discounted**.	Out
Peregrine (*Falco peregrinus*) [A103]	1 km - Iveragh Peninsula SPA	On the basis that the species will nest in isolated coastal and inland cliffs and that they primarily forage on land, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. In addition, SNH (2016) indicate that Peregrine core foraging range is limited to 2 km from nest sites during breeding season, thus limiting further its scope for overlap with activities in the Valentia Harbour – **likely significant effects on this bird species can be discounted**.	Out
Kittiwake (*Rissa tridactyla*) [A188]	1 km - Iveragh Peninsula SPA	On the basis that the summer visiting species will nest on steep sea cliffs and that they primarily forage offshore, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. Therefore, **likely significant effects on this bird species can be discounted**.	Out
Guillemot (*Uria aalge*) [A199]	1 km - Iveragh Peninsula SPA	On the basis that the species are sea birds which only come to shore for breeding, and nest on isolated cliff ledges, often in large colonies, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. Therefore, **likely significant effects on this bird species can be discounted**.	Out

[21] NPWS (2022). *Conservation objectives for Eirk Bog SPA [004108]. First Order Site-specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[22] NPWS (2022). *Conservation objectives for Killarney National Park SPA [004038]. First Order Site-specific Conservation Objectives Version 1.0.* Department of Housing, Local Government and Heritage.

[23] NPWS (2022) Conservation objectives for Magharee Islands SPA [004125]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Chough (*Pyrrhocorax pyrrhocorax*) [A346]	1 km - Iveragh Peninsula SPA	On the basis that the species are largely considered a terrestrial species that roost in coastal cliffs and forage on coastal grasslands, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. Therefore, **likely significant effect on this bird species can be discounted**.	Out
Manx Shearwater (*Puffinus puffinus*) [A013]	12.3 Km - Puffin Island SPA	On the basis that this species spends most of its life at sea, and breeds on uninhabited off-shore islands, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on these bird species can be discounted.**	Out
Storm Petrel (*Hydrobates pelagicus*) [A014]	12.3 Km - Puffin Island SPA	On the basis that the species will nest in isolated islands and that they primarily forage offshore, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Razorbill (*Alca torda*) [A200]	12.3 Km - Puffin Island SPA	On the basis that the species will nest on sea cliffs and that they primarily forage offshore, spending most of their time at sea, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Puffin (*Fratercula arctica*) [A204]	12.3 Km - Puffin Island SPA	On the basis that the species will nest on sea cliffs on isolated islands and that they primarily forage offshore, spending most of their time at sea, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Lesser Black-backed Gull *(Larus fuscus*) [A183]	12.3 Km - Puffin Island SPA	Gull species will forage over a mix of terrestrial and marine habitats and on the basis, could forage within the intertidal habitat used for extensive aquaculture. It is likely the existing and proposed aquaculture activities are within the foraging range of this gull species from this site. However, while this species has used intertidal areas for feeding the areas identified for extensive shellfish culture do not appear to host species considered important to their diet (i.e. molluscs and large nereid worms) (NPWS 2012). Studies in Magerees Islands (Kelly 2009) indicate that the preferred diet is terrestrial or fully marine in origin. In addition, recent studies in Ballyteigue Burrow (Co Wexford) have indicated terrestrial feeding sites are preferred over intertidal areas for breeding gulls. On the basis of the above, **likely significant effect on this bird species can be discounted.**	Out
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]	20.19 Km - Castlemaine Harbour SPA	A winter migrant to Ireland, they feed mostly on sea-grass (*Zostera* sp.) and also on grasslands (there is no Zostera located near to the extensive aquaculture activities within the site). They are mostly found on coastal estuaries during the autumn and early winter, and also on grasslands from mid-winter. LBBG have a positive relationship with oyster trestle culture (Gittings and O'Donoghue 2012) and have been observed to feed on macroalgae growing on oyster bags. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel **– likely significant effect on this bird species can be discounted**.	Out

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Wigeon (*Anas penelope*) [A050]	20.19 Km - Castlemaine Harbour SPA	Wigeon is a winter visiting grazing duck, which surface feeds on sea-grass and algae and also on grasslands and crops. There is no intertidal seagrass beds located near to the extensive aquaculture activities within the site. Given the Castlemaine Harbour SPA is > 20 km from the site, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC. **Likely significant effect on this bird species can be discounted.**	Out
Mallard (*Anas platyrhynchos*) [A053]	20.19 Km - Castlemaine Harbour SPA	Mallard are found in nearly all wet-lands in Ireland, with a varied diet, but plant materials (seeds) predominate. They ground nest in vegetation. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Pintail (*Anas acuta*) [A054]	20.19 Km - Castlemaine Harbour SPA	Pintail is a winter visiting duck to wetlands throughout Ireland. Their diet consists largely of plant seeds and underwater plants, while insects and crustaceans are also eaten when feeding in estuaries. This species is not recorded in this site (National Biodiversity Data Centre.) As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Scaup (*Aythya marila*) [A062]	20.19 Km - Castlemaine Harbour SPA	A winter visiting duck, that feeds mainly on animal matter (crustaceans and molluscs), including mussels. They do not breed in Ireland. Given the Castlemaine Harbour SPA is > 20 km from the site, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Common Scoter (*Melanitta nigra*) [A065]	20.19 Km - Castlemaine Harbour SPA	The common scoter is a diving duck that feeds on water plants, insect larvae and freshwater crustaceans. During the winter, they forage mostly in marine waters less than 20 m deep and with coarse sandy substrates, feeding predominantly on benthic molluscs. They are unlikely to forage in polychaete dominated communities found intertidally in such sheltered embayments. The site is too shallow, they prefer deeper water offshore, where they primarily feed and raft. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Ringed Plover (*Charadrius hiaticula*) [A137]	20.19 Km - Castlemaine Harbour SPA	A resident and winter inter-tidal wader, which hunts for a variety of invertebrates, particularly polychaete worms and crustaceans. Mostly coastal breeding distribution, preferring to nest on exposed wide sandy or shingle beaches. Winter around the entire coastline. Mostly recorded along sandy stretches or along the upper shores of estuaries and non-estuarine coastline. Given the Castlemaine Harbour SPA is > 20 km from the site, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC. **Likely significant effect on this bird species can be discounted.**	Out
Sanderling (*Calidris alba*) [A144]	20.19 Km - Castlemaine Harbour SPA	A winter visitor which feeds predominantly on small invertebrates, at the tidal edge. Sanderling are mostly found along sandy coastlines and long sandy beaches, especially non-estuarine areas. They do not breed in Ireland. Given the Castlemaine Harbour SPA is > 20 km from the site, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Bar-tailed Godwit (*Limosa lapponica*) [A157]	20.19 Km - Castlemaine Harbour SPA	A winter visitor to coastal estuaries that feeds along the tidal edge or in shallow water, mainly on polychaete worms, or bivalves. Wintering distribution entirely coastal. This species displays high site fidelity[24]. Given the Castlemaine Harbour SPA is > 20 km from the site, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Redshank (*Tringa totanus*) [A162]	20.19 Km - Castlemaine Harbour SPA	A winter visitor to coastal estuaries that feeds along the tidal edge or in shallow water, mainly on snails, worms and amphipods in the upper shore. Nests in callows. This species has preference for muddy river channels. They display a neutral response to trestles. Given the Castlemaine Harbour SPA is > 20 km from the site, and the habitat is not their preference, and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Greenshank (*Tringa nebularia*) [A164]	20.19 Km - Castlemaine Harbour SPA	A winter visitor which feeds mostly in deeper water sites, channels, brackish pools and lakes, predominantly on invertebrates, particularly shrimps, crabs and rag-worms, and small fish. Mostly coastal distribution. They display a positive response to trestles. Given that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Turnstone (*Arenaria interpres*) [A169]	20.19 Km - Castlemaine Harbour SPA	A winter visitor found along upper rocky shorelines. Feeds on sandhoppers, other marine invertebrates, and washed up carrion. Winters all around the Irish coast. They display a positive response to trestles (Gittings and O'Donoghue 2012). Given that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Oystercatcher (*Haematopus ostralegus*) [A130]	20.19 Km - Castlemaine Harbour SPA	A resident species that's main food includes larger invertebrates, particularly mussels and cockles that proliferate along sandy coasts. They nest principally on shingle beaches, dunes, salt marshes and rocky shores around the coast. They display a positive response to trestles (Gittings and O'Donoghue 2012). Given that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Red-throated Diver (*Gavia stellata*) [A001]	20.19 Km - Castlemaine Harbour SPA	The Red-throated Diver is a winter visitor to all Irish coasts. They are highly mobile and forage in inland waters and along coasts, feed on small fish and other food items including fish spawn, frogs, shrimps, molluscs, water insects and annelids. As they are not an inter-tidal species there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel **– likely significant effect on this bird species can be discounted**.	Out
Cormorant (*Phalacrocorax carbo*) [A017]	20.19 Km - Castlemaine Harbour SPA	Cormorant is a resident species that feeds on fish. They are a fish-eating diving species. They breed in colonies mainly around the coast of Ireland on cliffs, with some birds breeding inland. They winter at sea and inland. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out

[24] https://birdwatchireland.ie/home-and-away-with-bar-tailed-godwits/

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Wetland and Waterbirds [A999]	20.19 Km - Castlemaine Harbour SPA	On the basis that the QI is fixed within the SPA, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. Therefore, **likely significant effect on this habitat can be discounted**.	Out
Arctic Tern (*Sterna paradisaea*) [A194]	20.8 Km - Deenish Island and Scariff Island SPA	On the basis that the species primarily forages offshore or subtidal areas inshore, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted**.	Out
Gannet (*Morus bassanus*) [A016]	22.1 km - Skelligs SPA	A resident species along all Irish coasts, that feeds on fish. They breed in colonies on islands off the coast. They winter at sea. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Shag (*Phalacrocorax aristotelis*) [A018]	24. 0 Km - Blasket Island SPA	On the basis that the species identified here will nest on ledges, in crevices, in caves or under boulders on sea cliffs and that they primarily forage is within 7 Km of their breeding colony, there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. **Likely significant effect on this bird species can be discounted.**	Out
Herring Gull (*Larus argentatus*) [A184]	24. 0 Km - Blasket Island SPA	Herring Gull will forage over a mix of terrestrial and marine habitats. They display a positive relationship with trestles (Gittings & O'Donoghue, 2016). Given that they have an extensive range of alternative as suitable terrestrial and marine feeding habitat between Blasket and the locations of oyster trestles and there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Whooper Swan (*Cygnus cygnus*) [A038]	38.8 Km - Tralee Bay Complex SPA	A winter visitor to wetlands throughout Ireland, feeding on aquatic vegetation, but they are commonly found grazing on agricultural grasslands and fields. Mostly migrate to nest, but a small number nest on lakes. They winter on lowlands open farmland around inland wetlands. As there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. **Likely significant effect on this bird species can be discounted.**	Out
Shelduck (*Tadorna tadorna*) [A048]	38.8 Km - Tralee Bay Complex SPA	Both a resident and a winter migrant, which feeds on mud snails, which is present in most estuaries. They breed in open areas along seashores, larger lakes and rivers, nesting in holes in banks, trees, occasionally straw-stacks or buildings. They winter in sheltered estuaries or tidal mudflats. The dominant habitat for shellfish culture is primarily intertidal sandflat. Given the Tralee Bay Complex SPA is >38 km from the site and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC**, likely significant effect on this bird species can be discounted.**	Out
Teal (*Anas crecca*) [A052]	38.8 Km - Tralee Bay Complex SPA	They feed on small seeds, but also algae, molluscs and insect larvae. They usually nest near small freshwater lakes and small upland streams away from the coast. They winter on wetlands with good cover, both coastal and inland. As there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. **Likely significant effect on this bird species can be discounted.**	Out

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Golden Plover (*Pluvialis apricaria*) [A140]	38.8 Km - Tralee Bay Complex SPA	A year round visitor species, they feed on soil and surface living invertebrates and plant material. They breed in heather moors, bog-lands and grasslands. In winter they are regularly found in dense flocks both coastal and inland. The feed inland and roost in marine areas at night. It is unlikely that Golden Plover will migrate from Tralee Bay complex to Valentia Harbour intertidal areas to roost. As there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. **Likely significant effect on this bird species can be discounted.**	Out
Grey Plover (*Pluvialis squatarola*) [A141]	38.8 Km - Tralee Bay Complex SPA	A winter visitor that feeds on a wide variety of burrowing intertidal invertebrates, particularly polychaete worms, molluscs and crustaceans. They occur mostly along eastern and southern coasts, most often on large muddy estuaries. They regularly roost among dense flocks during high tide, while their distribution is more scattered while feeding. They forage in-land up to 8 km from the intertidal area. Given the Tralee Bay Complex SPA is >38 km from the site, this species is unlikely to mover from Tralee Bay Complex to roost or feed. There is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Lapwing (*Vanellus vanellus*) [A142]	38.8 Km - Tralee Bay Complex SPA	A resident and a winter visitor that feeds on a variety of soil and surface-living invertebrates, particularly small arthropods and earthworms. They breed on open farmland, nesting in fields. They winter in wetlands, pasture and rough land adjacent to bogs. As there is no likely interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. **Likely significant effect on this bird species can be discounted.**	Out
Dunlin (*Calidris alpina*) [A149]	38.8 Km - Tralee Bay Complex SPA	A summer visitor, that feeds predominantly on small invertebrates of estuarine mudflats, close to the tide edge. They nest on the ground in sparse, low vegetation - in Ireland favours machair habitats. Common along all coastal areas - especially on tidal mudflats and estuaries. They forage up to 5 km from their roosts (Diaz et al 2006). Given the Tralee Bay Complex SPA is >38 km from the site and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Black-tailed Godwit (*Limosa limosa*) [A156]	38.8 Km - Tralee Bay Complex SPA	A winter visitor that feeds on a range of invertebrates, including bivalves, polychaete worms and shore crabs in muddier estuaries, but also feed in brackish pools and on nearby rough pasture. Winters both inland and coastal (particularly estuaries), though seldom seen along non-estuarine coast. Given the Tralee Bay Complex SPA is >38 km from the site and that there is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC, **likely significant effect on this bird species can be discounted.**	Out
Curlew (*Numenius arquata*) [A160]	38.8 Km - Tralee Bay Complex SPA	A winter visitor to wetlands throughout Ireland, they feed mostly in estuaries on invertebrates, particularly ragworms, crabs and molluscs. They are usually well dispersed across an estuary while feeding, but roost communally, usually along salt marshes and sand banks. They winter in a wide range of wetland habitats (coastal and inland) including damp fields. Given the Tralee Bay Complex SPA is >38 km from the site, it is unlikely those curlew using Tralee Bay complex will migrate to Valentia Harbou. There is no likely significant interaction with existing or proposed intertidal aquaculture activities within the Valentia Harbour/Portmagee Channel SAC. On this basis, **likely significant effect on this bird species can be discounted.**	Out

Qualifying Features [Species code]	Nearest SPA	Aquaculture Screening	Screening Outcome
Black-headed Gull (*Chroicocephalus ridibundus*) [A179]	38.8 Km - Tralee Bay Complex SPA	Resident along all Irish coasts, they feed on insects especially in arable fields, but also exploit domestic and fisheries waste. Breeds both on the coast and inland where they will often nest in colonies. Usually, nests on the ground in wetland areas, such as bogs and marshes. Given the distances between the sites and the presence of suitable terrestrial feeding habitat between them, there is no likely interaction between Black-headed Gull in Tralee Bay Complex with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel. On this basis, **likely significant effect on this bird species can be discounted.**	Out
Common Gull (*Larus canus)* [A182]	38.8 Km - Tralee Bay Complex SPA	While Common gull will forage over a mix of terrestrial and marine (and intertidal) habitats and on the basis, could forage within the intertidal habitat used for extensive aquaculture. However, given the small amount of suitable intertidal area in Valentia Harbour, relative to other marine habitats and the distance between the proposed aquaculture operations and the Tralee Bay Complex population of Common gull, **any likely significant effect on these bird species can be discounted.**	Out
Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395]	41.98 Km - Eirk Bog SPA	A winter visitor to wetlands in Ireland, that gazes on a range of plant material taking roots, tubers, shoots and leaves. They occur in peatland areas and on intensively managed grasslands. There is no overlap with feeding or wintering habitat of Greenland White-fronted goose. **Likely significant effect on these bird species can be discounted.**	Out
Merlin (*Falco columbarius*) [A098]	44.4 km - Killarney National Park SPA	A local summer visitor to uplands throughout Ireland and widespread winter visitor at lowland sites. They feed in flight on small birds. They nest on the ground on moorland, mountain and blanket bog. There is no overlap with feeding or wintering habitat of this species. **Likely significant effect on these bird species can be discounted.**	Out
Barnacle Goose (*Branta leucopsis*) [A045]	45.2 Km - Magharee Islands SPA	A winter visitor that primarily grazes, feeding on plant material. They do not breed in Ireland. They may winter on remote islands in the northwest Ireland and migrate through a number of bays and estuaries. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Common Tern (*Sterna hirundo*) [A193]	45.2 Km - Magharee Islands SPA	A summer visitor, usually seen over the sea or over large inland lakes, which feeds chiefly on fish by plunging. They nest colonially on the ground, on the coast. They do not winter in Ireland. They have a foraging range of 30 km, with a mean max of 18.0±8.9 km and mean of 6.4±4.5 km. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out
Little Tern (*Sterna albifrons*) [A195]	45.2 Km - Magharee Islands SPA	Little Tern are a rare summer visitor to shingle or sandy beaches, feeding chiefly on marine fish. Nest colonially on the ground on shingle beaches, with the majority breeding in Counties Louth, Wicklow and Wexford. They do not winter in Ireland. The Little Tern has a foraging range of up to 5 km, with mean max of 5 km and mean of 3.5 km. As there is no likely significant interaction with existing or proposed intertidal aquaculture activities within Valentia Harbour/Portmagee Channel – **likely significant effect on this bird species can be discounted.**	Out

3.6.2 Screening of Potential Effects of Introduction of Non-native Species on Valentia Harbour/Portmagee Channel SAC

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. The primary risk of the proposed activities to the QIs of Valentia Harbour/Portmagee Channel SAC is the potential introduction and establishment of the culture organism *Magallana gigas* as a wild, non-native, population.

The environmental conditions in Valentia Harbour/Portmagee Channel SAC may be suitable for the settlement and subsequent establishment of *M. gigas*. Their larvae require high water residency times within a waterbody to have time to settle (low rates of water circulation and replenishment), in the order of 20 days.

Out of an abundance of caution and because the proposed activities may interact directly with marine habitats within the Valentia Harbour/Portmagee Channel SAC, the potential for the establishment of wild populations of *M. gigas* cannot be discounted. As a result, the likely significant effect resulting from the culture of the Pacific oyster, *Magallana gigas*, on the Qis of the SAC cannot be discounted. This risk factor, therefore, should be carried forward for further consideration in a full AA.

3.7 Consideration of in-combination effects on Natura 2000 site Qualifying Interests

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 extensive aquaculture operation acts in-combination with other (non-aquaculture) 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.

To this end, existing and proposed licensing activities in the vicinity of the proposed extensive shellfish culture activities have been reviewed. Those activities reviewed are:

- DHLGH Foreshore Licencing (https://www.gov.ie/en/foreshore-notices/ - Accessed: 27/07/2023),
- Kerry County Council planning (Map Viewer[25] Accessed: 27/07/2023)
- EPA pressures maps (www. https://gis.epa.ie/EPAMaps/Water: Accessed: 27/07/2023)
- Inshore Fishing Maps (Ireland's Marine Atlas - http://atlas.marine.ie/#?c=53.9108:-15.9082:6: Accessed: 27/07/2027)

The review of these sources has identified no existing activities on the foreshore or adjacent to the foreshore that may interact with the proposed shellfish culture activities resulting in in-combination effects, more importantly, synergistic cumulative effects, such that those QIs already screened out may now be included. The

[25] https://kerry.maps.arcgis.com/apps/webappviewer/index.html?id=33565bc13600476c8c4bae1eadb8c22d

result of this scan has meant that screening conclusions identified above (and summarised below) are considered valid and the process can progress to the full AA stage.

4 Summary findings of AA Screening of proposed extensive aquaculture activities in Valentia Harbour/Portmagee Channel SAC.

In Valentia Harbour/Portmagee Channel SAC intertidal oyster culture is the only aquaculture activity currently being carried out or proposed. Based upon this and the information provided in the aquaculture profiling, the likely interaction between the culture methodologies employed and conservation features (habitats) of the site and other sites and QIs where interactions might occur were considered.

An initial screening exercise resulted in a number of habitat features being excluded from further consideration by virtue of the fact that no spatial overlap or likely interactions (S-P-R) of the culture activities was expected to occur. Table 4-1 presents a summary of the screening outcome for each of the sites representing licenced extensive aquaculture or extensive aquaculture/foreshore applications. 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 4-1 Summary table of conclusions by site.

(N– No significant effect, P – Likely significant effect cannot be excluded)

Site No.	Status	Activity/Species	Habitat (QI)	Species (QI)	Non-native species
T06-366A	Licensed	Pacific Oyster	P	N	P
T06-374A	Licensed	Pacific Oyster	P	N	P
T06-416A*	Licensed	Pacific Oyster	N	N	P
T06-389A	Licensed	Pacific Oyster	P	N	P
T06-365A	Licensed	Pacific Oyster	P	N	P
T06-503A	Application	Pacific Oyster	P	N	P
T06-461A	Application	Pacific Oyster	P	N	P
T06-514A	Application	Pacific Oyster	P	N	P
T06-502A	Application	Pacific Oyster	P	N	P
T06-515A	Application	Pacific Oyster	P	N	P
T06-521A	Application	Pacific Oyster	P	N	P
T06-517A	Application	Pacific Oyster	P	N	P
T06-509A	Application	Pacific Oyster	P	N	P
T06-450A	Application	Pacific Oyster	P	N	P
T06-518A*	Application	Pacific Oyster	N	N	P

* *These sites are not within the SAC but within the Valentia River system.*

Those Habitat QIs carried forward for additional consideration are:

- Annex I Habitat 1140 - Mudflats and sandflats not covered by seawater at low tide
- Annex I Habitat 1160 - Large shallow inlets and bays
- Annex I Habitat 1170 – Reefs

No animal (e.g., bird, mammal or fish) species are likely to interact with the existing and proposed intertidal cultures, such that significant effects could not be discounted.

Finally, the risk of naturalisation posed by the culture of the Non-native species, the Pacific oyster (*Magallana gigas*) should be considered further in a full AA.

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