



**Appropriate Assessment Summary Report of Aquaculture in
the Ballymacoda (Clonpriest & Pillmore) SAC (Site Code: 00077)
and Ballymacoda Bay SPA (Site Code: 004023)**

Marine Institute

Version: October 2017

Table of Contents

Preface 3

Summary SAC Considerations, Conclusions and Recommendations 4

Summary SPA Considerations, Conclusions and Recommendations 6

Annex I: Report supporting Appropriate Assessment of Aquaculture in Ballymacoda (Clonpriest & Pillmore) SAC (Site Code: 00077)

Annex II: Ballymacoda Bay SPA Assessment of Aquaculture Activities under Article 6 of the Habitats Directive

Preface

In Ireland, the implementation of the Habitats Directive in relation to aquaculture and certain fisheries activities that occur within designated sites is achieved through Article 6(3) of the Directive whereby such activities, which are licenced by the Department of Agriculture, Food and the Marine (DAFM) or Department of Communications, Energy and Natural Resources (DCENR), are viewed as plans and projects and are therefore subject to Appropriate Assessment (AA). The Habitats Directive is transposed in Ireland in the European Communities (Birds and Natural Habitats) Regulations 2011. Appropriate assessments are currently carried out against the conservation objectives (COs), and more specifically on the version of the COs that are available at the time of the Assessment, for designated ecological features, within the site, as defined by the National Parks and Wildlife Service (NPWS). NPWS are the competent authority for the management of Natura 2000 sites in Ireland. Obviously, aquaculture and fishing operations existed in coastal areas prior to the designation of such areas under the Directives. Ireland is thereby assessing both existing and proposed aquaculture and fishing activities in such sites. This is an incremental process, as agreed with the EU Commission in 2009, and will eventually cover all fishing and aquaculture activities in all Natura 2000 sites.

In the case of aquaculture, DAFM receives applications to undertake such activity and submits a set of applications, at a defined point in time, for assessment. The aquaculture applications are then subject to AA. If the AA finds that significant effects of such activities cannot be discounted the plans or projects will need to be mitigated further if such activities are to continue. The AA is not explicit on how this mitigation should be achieved but rather the degree of mitigation required. In effect, therefore, the AA is a 'point in time' assessment of aquaculture activities to determine if they are consistent with COs for designated features within a Natura site and thereby compliant with the Directives.

This summary report presents the findings of the reports prepared to consider the interactions between aquaculture activities and the conservation features of both the Ballymacoda (Clonpriest & Pillmore) SAC and the Ballymacoda Bay SPA. The SAC and SPA reports were prepared by RPS and APEM, respectively. Both were reviewed and edited for content by the Marine Institute. This report is structured such that the summary, conclusions and recommendations from the assessment of aquaculture activities on Natura 2000 features for the Ballymacoda (Clonpriest & Pillmore) SAC (Site Code: 00077) and Ballymacoda Bay SPA (Site code 004023) are provided in the first part of this report while the full assessments of aquaculture activities on the SAC and the SPA are provided in Annex 1 and 2, respectively.

Summary SAC Considerations, Conclusions and Recommendations

Ballymacoda (Clonpriest & Pillmore) SAC is located 6km southwest of Youghal town, Co. Cork. The SAC site encompasses the lower tidal area of the Womanagh River and extends to the low tide mark at inner Youghal Bay. The inner estuarine area of the site is well sheltered with sediment types varying from muds to muddy sands while the relatively more exposed outer seaward area is typified by fine rippled sands. Designated marine habitats include Estuaries (1130) and Mudflats and sand flats not covered by seawater at low tide (1140) each of which support soft sedimentary communities and community complexes. The site also contains, and is designated for Salicornia and other annuals colonizing mud and sand (1310) and Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) (1330). Conservation Objectives for marine habitats and constituent communities within the SAC were identified by NPWS (2015a) and relate primarily to the requirement to maintain habitat distribution, structure and function, as defined by characterizing (dominant) species in these habitats. For designated species the objective is to maintain various attributes of the populations including population size, habitats quality and the distribution of the species.

Activities in the SAC

Within Ballymacoda (Clonpriest & Pillmore) SAC aquaculture focuses on the cultivation of the Pacific oyster *Crassostrea gigas* (*C. gigas*) on trestles in intertidal areas of the bay. The profile of the aquaculture industry in the SAC, used in this assessment, was prepared by BIM and is derived from the list of licence applications received by DAFM and provided to the MI for assessment in March 2016.

The Appropriate Assessment Process

The function of an Appropriate Assessment and Risk Assessment is to determine if the ongoing and proposed aquaculture activities are consistent with the Conservation Objectives for the Natura site or if such activities will lead to deterioration in the attributes of the habitats and species over time and in relation to the scale, frequency and intensity of the activities. NPWS (2015a) provide guidance on interpretation of the Conservation Objectives which are, in effect, management targets for habitats and species in the SAC. This guidance is scaled relative to the anticipated sensitivity of habitats and species to disturbance by the proposed activities. Some activities are deemed to be wholly inconsistent with long term maintenance of certain sensitive habitats while other habitats can tolerate a range of activities. For the practical purpose of management of sedimentary habitats a 15% threshold of overlap between a disturbing activity and a habitat is given in the NPWS guidance. Below this threshold disturbance is deemed to be non-significant. Disturbance is defined as that which leads to a change in the characterizing species of the habitat (which may also indicate change in structure and function). Such disturbance may be temporary or persistent in the sense that change in characterizing species may recover to pre-disturbed state or may persist and accumulate over time.

The Appropriate Assessment process is divided into a number of stages consisting of a preliminary risk identification, and subsequent assessment (allied with mitigation measures if necessary) which are covered in this report. The first stage of the process is an initial screening wherein activities which cannot have, because they do not spatially overlap with a given habitat or have a clear pathway for interaction, any impact on the conservation features and are therefore excluded from further consideration. The next phase is the Natura Impact Statement where interactions (or risk of) are identified. Further to this, an assessment on the significance of the likely interactions between activities and conservation features is conducted. Mitigation measures (if necessary) will be introduced in situations where the risk of significant disturbance is identified. In situations where there is no obvious mitigation to reduce the risk of significant impact, it is advised that caution should be applied in licencing decisions. Overall the Appropriate Assessment is both the process and the assessment undertaken by the competent authority to effectively validate this Screening Report and/or NIS. It is important to note that the screening process is considered conservative, in that other activities which may overlap with habitats but which may have very benign effects are retained for full assessment. In the case or Risk Assessments consequence and likelihood of the consequence occurring

are scored categorically as separate components of risk. Risk scores are used to indicate the requirement for mitigation.

Data Supports

Distribution of habitats and species population data are provided by NPWS¹. Scientific reports on the potential effects of various activities on habitats and species have been compiled by the MI and provide the evidence base for the findings. The profile of aquaculture activities was provided by BIM. The data supporting the assessment of individual activities vary and provides for varying degrees of confidence in the findings.

Findings

In Ballymacoda (Clonpriest & Pillmore) SAC there is one valid oyster production licence with a further five new applications. The likely interaction of aquaculture activity occurring at licenced sites, application sites and access routes with the conservation features (habitats and species) of the site was considered. An initial screening exercise resulted in a number of habitat features and species being excluded from further consideration. None of the aquaculture activities (existing and/or proposed) overlaps or likely interacts with the following features or species, and therefore the following the Qualifying Interests were excluded from further consideration in the assessment; Estuaries (1130), Salicornia and other annuals colonizing mud and sand (1310) and Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) (1330).

A full assessment was carried out on the likely interactions between aquaculture operations and the feature Annex 1 habitat Mudflats and sandflats not covered by seawater at low tide (1140). The likely effects of existing and proposed aquaculture activities were considered in light of the sensitivity of the constituent community of the Annex 1 habitat 1140 that was shown to overlap with current and proposed intertidal oyster namely; Sand with polychaetes and bivalves community complex.

In summary, it is concluded, on the basis of spatial overlap and sensitivity analysis, that current and proposed intertidal aquaculture activities, both individually and in-combination, do not pose a risk of significant disturbance to the habitat features of in Ballymacoda (Clonpriest & Pillmore) SAC. However, the risk posed by the introduction of ½-grown oysters from France cannot be discounted.

¹ NPWS Geodatabase Ver: September 2015 - <http://www.npws.ie/mapsanddata/habitatspeciesdata/>

Summary SPA Considerations, Conclusions and Recommendations

Introduction

APEM Ltd was commissioned by the Marine Institute to provide ornithological services related to the appropriate assessment of aquaculture on coastal Special Protection Areas (SPAs). This report contains the Appropriate Assessment of aquaculture activities in Ballymacoda Bay, assessed alone as well as ‘in combination’ with other activities in and around the Bay. The activities being assessed are within the Ballymacoda Bay SPA (Site code 004023) and this SPA is the primary focus of this assessment.

Methodology

The method applied follows the stepwise requirements of Article 6 of the Habitats Directive. The first step is to identify if the activity is related, or not, to the management of the Natura 2000 site for nature conservation purposes. If it is not, then the method moves on to a preliminary screening based on distance of the SPA from the aquaculture activities. The purpose of this is to screen out SPAs that are so distant from the location of the aquaculture activities that detailed consideration of such SPAs is not required. This is followed by consideration of the Special Conservation Interest (SCI) species for each screened in SPA to assess if their habitat requirements and feeding ecology are such that there is no potential for impacts e.g. species that feed and / or nest on terrestrial habitats away from the aquaculture activities. The next, and more detailed, step examines finer scale bird distribution in relation to aquaculture activities and is the application of the approach based on assessing spatial overlap using in particular the National Parks and Wildlife Service (NPWS) Baseline Waterbird Survey (BWS) low tide bird count data. It examines the scale of that spatial overlap and, in relation to conservation objectives of each SCI, identifies a significant negative impact for those species that respond negatively to aquaculture activities and for which there is an overlap between bird distribution at low tide and aquaculture activities of 5% or more of the total SPA population. At this detailed stage the potential for in-combination effects between aquaculture activities and other activities is also assessed.

Outcome of initial screening

Those SPAs that were considered for screening because they were located within 15 km of the aquaculture activities were:

Ballymacoda Bay SPA	(Site code 004023)
Blackwater Estuary SPA	(Site code 004028)
Ballycotton Bay SPA	(Site code 004022)
Helvick Head to Ballyquin SPA	(Site code 004192)

A consideration of the spatial overlap, potential for at a distance effects and SCI species habitat requirements and feeding ecology led the following SPA to be screened in for detailed consideration:

Ballymacoda Bay SPA	(Site code 004023)
---------------------	--------------------

Interest features and conservation objectives of the screened in SPA

The SCIs of the Ballymacoda Bay SPA are:

Wigeon	Black-tailed Godwit
Teal	Bar-tailed Godwit
Ringed Plover	Curlew
Golden Plover	Redshank
Grey Plover	Turnstone
Lapwing	Black-headed Gull
Sanderling	Common Gull
Dunlin	Lesser Black-backed Gull

Wetland habitats

The conservation objectives for all of the SCI bird species of the Ballymacoda Bay SPA are expressed in a standard form as:

To maintain the favourable conservation condition of [species name] in Ballymacoda Bay SPA, which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Population trend	Percentage change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing and intensity of use of areas by [species name], other than that occurring from natural patterns of variation

The conservation objective for the SCI 'Wetland habitats' is presented as:

To maintain the favourable conservation condition of the wetland habitat in Ballymacoda Bay SPA as a resource for the regularly occurring migratory waterbirds that utilise it. This is defined by the following attribute and target:

Attribute	Measure	Target
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 602 hectares, other than that occurring from natural patterns of variation

Description of aquaculture activities

The aquaculture activities relate to one method of cultivation only, the bag and trestle method within the intertidal zone. The species of shellfish licenced for cultivation are the Pacific oyster *Crassostrea gigas* and the blue mussel *Mytilus edulis*. Currently only oyster is cultivated. The bag and trestle method uses steel table-like structures in the middle to lower intertidal zone. The trestles are mostly accessed at the time of spring tides (around 3 – 10 days per month) and on average for between 2 and 5 hours on such days, although access depends on tidal and weather conditions. The shellfish are thinned out and graded as they grow. General maintenance work on the trestles and bags includes shaking and turning of bags and hand removal of fouling and seaweed to ensure a flow of water flow through the bags when they are submerged. Access is by vehicle across the intertidal at low tide. Time to harvest, depending on intake size, ranges from 2.5 to 4 years.

The specific activities assessed are a series of renewal licence applications and the new licence applications within Ballymacoda Bay and almost wholly within the SPA. The existing licences that are for renewal occupy 6.12% of the SPA. The applications for new licences are wholly within the SPA and represent 31.85% of the SPA. The renewal and new application licence locations and access routes are all in the outer section of Ballymacoda Bay. In relation to the NPWS BWS count sub-sites the renewal and new applications overlap with only three of those sub-sites: OL571, OL572 and OL573.

Assessment of aquaculture activities

The assessment of spatial overlap for each SCI species, divided by consideration of renewal licence applications alone, new licence applications alone and all licence applications together identified the following potential scale of displacement in relation to the SPA baseline population:

SCI species	Renewal licences	New licences	All licences
Wigeon	3.8%	12.4%	15.1%
Teal	0.1%	1.4%	1.7%
Ringed Plover	1.2%	16.7%	20.3%
Golden Plover	1.0%	3.3%	4.0%
Grey Plover	4.2%	15.8%	19.3%
Lapwing	0.2%	0.8%	0.9%
Sanderling	20.0%	71.8%	87.7%
Dunlin	1.6%	6.6%	8.0%
Black-tailed Godwit	7.4%	21.2%	25.9%
Bar-tailed Godwit	2.0%	26.6%	32.5%
Curlew	1.5%	5.0%	6.1%
Redshank	3.4%	12.2%	14.9%
Turnstone	0.8%	8.0%	9.7%
Black-headed Gull	1.3%	4.7%	5.7%
Common Gull	1.5%	6.1%	7.4%
Lesser Black-backed Gull	0.3%	0.8%	0.9%

The SCI 'wetland habitat' is not subject to a potential adverse impact under any aquaculture licence scenario.

In-combination effects

The assessment of in-combination effects screened in and considered the following activities occurring in and around Ballymacoda Bay:

- Coastal recreation
- Bait digging
- Fisheries and shellfisheries

No in-combination impacts were identified.

Conclusion of the assessment

The assessment that has been undertaken has identified the potential for significant adverse impact on a number of the SCI species of the Ballymacoda Bay SPA, with the potential for that adverse impact varying dependent on whether the renewal applications are considered alone, the new applications are considered alone and the two categories of application are considered together.

The renewal applications alone have the potential to result in significant adverse impact on the following SCI species of the Ballymacoda Bay SPA:

- Sanderling
- Black-tailed Godwit

The new applications alone have the potential to result in significant adverse impact on the following SCI species of the Ballymacoda Bay SPA:

- Wigeon
- Ringed Plover
- Grey Plover
- Sanderling
- Black-tailed Godwit
- Bar-tailed Godwit

The renewal applications and the new applications considered together have the potential to result in significant adverse impact on the following SCI species of the Ballymacoda Bay SPA:

- Wigeon
- Ringed Plover
- Grey Plover
- Sanderling
- Dunlin
- Black-tailed Godwit
- Bar-tailed Godwit
- Common Gull

The following SCI species of the Ballymacoda Bay SPA are not subject to a potential adverse impact under any aquaculture licence scenario:

- Teal
- Golden Plover
- Lapwing
- Curlew
- Redshank
- Turnstone
- Black-headed Gull
- Lesser Black-backed Gull

In addition the SCI 'wetland habitat' is not subject to a potential adverse impact under any aquaculture licence scenario.

Consideration of potential in-combination impacts has been made and the conclusions above remain as stated as no in-combination impacts have been identified.

On the basis of the findings in Annex II under the licencing scenarios presented, it is advised that the licencing of all activities (renewals and applications), would result in what is considered significantly high levels of displacement for 8 shorebird species, and the levels are such that there are no likely clear mitigation measures applicable that would result in acceptable levels of disturbance.

The renewal of existing licences alone, may be feasible on the basis that the two SCI species that might be subject to significant displacement, i.e., Sanderling and Black-tailed Godwit, are considered of 'favourable' conservation status. In addition, monitoring has indicated that mean counts in the SPA, over the last five years, for Sanderling are almost twice the 'baseline population' level and almost 1.5 times the baseline population level for Black-tailed Godwit². Furthermore, as pointed out in Annex II, if the most recent I-WeBS 5-year-mean peak is considered for Sanderling, the percentage displacement as a consequence of the proposed licencing regime would likely decrease to 10%. It is important to note that any positive licencing actions should be conditional on review of monitoring outputs.

² The Irish Wetland Bird Survey (I-WeBS) – www.birdwatch.ie