

Appropriate Assessment Screening for Aquaculture activities in Castlehaven Bay, Co. Cork	
Brief description of the project or plan	<p>Currently there is no licenced aquaculture activity in Castlehaven Bay, Co. Cork</p> <p>An application for a licence for the production of oysters (<i>C. gigas</i>) has been submitted for Site T05/605A covering an area of circa 3Ha on the intertidal foreshore.</p> <p>The location of the aquaculture site is shown in Figure 1.</p>

Brief description of the Natura 2000 sites	<p>The proposed aquaculture site in Castlehaven Bay is not located within a Natura 2000 site. The following Natura 2000 sites are adjacent to (within 15Km) the aquaculture licence application Site T05/605A and are shown in Figure 1.</p> <p>Castletownshend SAC (Site code: 001547) Castletownshend wood, which is situated 7 km east of Skibbereen in Co. Cork, lies on the west side of a narrow sea inlet cut into an undulating ridge of Old Red Sandstone. The soil is thin and the slopes of the site are generally covered by oak woodland, particularly on the steeper slopes around The Narrows. Some of the site has been planted with conifers, but the steeper slopes retain a cover of semi-natural broadleaf woodland. Castletownshend is particularly noteworthy for the presence of the rare and protected Killarney Fern.</p> <p>The Conservation Objectives of this site are¹</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected</p> <ul style="list-style-type: none"> • Killarney Fern <p>Myross Wood SAC (Site Code: 001070)</p> <p>Myross Wood is located just to the south of Leap Village, approximately 8 km east of Skibbereen, Co. Cork, and situated on a hillside sloping down to the upper reaches of Glandore Harbour. The main habitat at Myross Wood is mixed woodland, which contains fragments of semi-natural woodland on cliffs and rocky ground. Of particular note is the presence of a population of Killarney Fern</p>
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NPWS (2018) Conservation objectives for Castletownshend SAC [001547]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

	<p>The Conservation Objectives of this site are:²</p> <p>To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected</p> <ul style="list-style-type: none"> • Killarney Fern <p>Sheeps Head to Toe Head SPA (Site Code: 004156)</p> <p>The Sheep's Head to Toe Head SPA is large site situated on the south-west coast of Co. Cork. It encompasses the high coast and sea cliffs from Sheep's Head to Mizen Head, Brow Head and Crookhaven in the west and from Baltimore to Tragumna Bay, Gokane Point and the Toe Head peninsula in the east. The site includes the sea cliffs, the land adjacent to the cliff edge, an area further inland to the east of Dunlough Bay, and also areas of sand dunes at Barley Cove and Crookhaven. The high water mark forms the seaward boundary.</p> <p>The Conservation Objectives of this site are³</p> <p>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA:</p> <ul style="list-style-type: none"> • Peregrine • Chough <p>Lough Hyne Nature Reserve and Environs SAC (Site Code: 000097)</p> <p>This is a large coastal site (>400 ha) situated just east of Roaringwater Bay some 5 km south-west of Skibbereen, Co. Cork. It includes Lough Hyne Nature Reserve on its western end, Ballyally Lough, the adjacent marshland area along the Bealariree stream and the coastline eastwards to Gokane Point, including Tragumna Bay. The site therefore encompasses a range of both marine and terrestrial habitats.</p> <p>The Conservation Objectives of this site are⁴</p>
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NPWS (2018) Conservation objectives for Myross Wood SAC [001070]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

³ *NPWS (2018) Conservation objectives for Sheep's Head to Toe Head SPA [004156]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.*

	<ul style="list-style-type: none"> • To maintain the favourable conservation condition of Large shallow inlets and bays in Lough Hyne Nature Reserve and Environs SAC • To maintain the favourable conservation condition of Reefs in Lough Hyne Nature Reserve and Environs SAC, • To maintain the favourable conservation condition of Submerged or partially submerged sea caves in Lough Hyne Nature Reserve and Environs SAC,
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Assessment criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	It is intended that the intertidal culture of <i>C. gigas</i> will be carried out in bags on trestles in the intertidal zone. Depending on the size of the stock the numbers of oysters in each bag will vary with lower number in bags with larger oysters. Typically seed will be sourced from hatcheries in the UK or France but half-grown oysters, sourced from Ireland or within the EU (typically France) may also be used as stock.

⁴ NPWS (2014) Conservation Objectives: Lough Hyne Nature Reserve and Environs SAC 000097. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:	
size and scale;	There are no direct or indirect impacts from the proposed shellfish culture operations on the adjacent Natura 2000 sites
Distance from the Natura 2000 site or key features of the site:	<p>There is no spatial overlap between any of the aquaculture sites and the adjacent Natura 2000 sites.</p> <p>Sites T05/605A is located:</p> <ul style="list-style-type: none"> • circa 0.3Km from the nearest boundary of the Castletownshend SAC • circa 4.4Km from the nearest boundary of the Myross Wood SAC • circa 4.7Km from the nearest boundary of the Sheeps Head to Toe Head SPA • circa 7.6Km from the nearest boundary of the Lough Hyne Nature Reserve and Environs SAC
Resource requirements (water abstraction etc.):	<p>Oysters are filter feeders and they feed upon suspended particulate matter. They selectively ingest phytoplankton and other organic material (e.g. small zooplankton and bacteria) and dispose of inorganic and larger organic matter in pseudofeces, which is excreted into the water column. Typically the fecal and pseudofecal pellets will fall to the sea floor and may cause localised organic enrichment and/or sedimentation. The level of enrichment is a function of, <i>inter alia</i>, water depth current speed, density of culture, the quantity of suspended particulate matter in the water column, or a combination of these. The build-up of excess organic matter beyond the footprint of the site is not considered likely. The bivalve shellfish production activities do not use any resources required by the qualifying features within the adjacent Natura 2000 sites.</p>
Emissions (disposal to land, water or air):	<p>The proposed aquaculture site in the intertidal area Castlehaven Bay will be accessed mainly by tractors, with other vehicles used as required. As a consequence, noise and pollution e.g. as a result of a fuel spill may present a risk to features of adjoining Natura sites with a specific marine element. The risks are, however, not considered significant at the proposed level of aquaculture activity. It is considered that impacts would be localised and minor.</p> <p>The risk of the introduction of non-native species is considered to be low Similarly the risk of the transfer of non-native species with hatchery sourced seed of <i>C. gigas</i> is also not considered to be significant. The use of half-grown oysters from outside the State as a source of stock has the potential to result in the introduction of non-native species into the bay. Adoption of industry best practice and implementation of measures set out in relevant guidelines as they relate to the risk of introduction of non-target species (e.g. Invasive Species</p>

	Ireland guideline available at http://invasivespeciesireland.com/biosecurity/aquaculture/) would also significantly reduce the risk.
Excavation requirements:	There are no excavation or similar activities associated with the proposed aquaculture activity
Transportation requirements:	Access route to the proposed aquaculture site does not spatially overlap with any of the adjacent Natura 2000 sites. The produced aquaculture products are transported offsite via the existing national road network with no impact on the adjoining Natura 2000 sites.
Duration of construction, operation, decommissioning:	None
Other:	

Describe any likely changes to the site arising as a result of:	
Reduction of habitat area:	There is no reduction in habitat area within any of the adjacent Natura 2000 sites considered arising from the proposed aquaculture production activities.
Disturbance to key species:	Given the separation distance of the proposed oyster production site from the adjacent Natura 2000 sites and the absence of any clear “source –pathway – receptor” there will be no disturbance to key species within any Natura 2000 sites. There is no evidence in the scientific literature to suggest that aquaculture activities as proposed significantly impact on the bird species listed as Features of Interest in the SPA, i.e. Peregrine and Chough
Habitat or species fragmentation:	There is no habitat or species fragmentation within the Natura 2000 sites arising from the proposed aquaculture production activities.
Reduction in species density:	There is no reduction in species density within the Natura 2000 sites arising from the proposed aquaculture production activities.
Changes in key indicators of conservation value (water quality):	There are no changes in key indicators of conservation value within the Natura 2000 sites arising from the proposed aquaculture production activities.
Climate change:	Given the nature and scale of the proposed aquaculture production activities the contribution to climate change is considered insignificant.

Describe any likely impacts on the Natura 2000 site as a whole in term of;	
Interference with the key relationships that define the structure of the site:	None of the activities associated with the proposed shellfish production in Castlehaven Bay will interfere with the key relationships that define the structure of the adjacent Natura 2000 sites.
Interference with the key relationships that define the function of the site	None of the activities associated with the proposed shellfish production in Castlehaven Bay will interfere with the key relationships that define the function of the adjacent Natura 2000 sites.
Provide indicators of significance as a result of the identification of effects set out above in terms of:	
Loss	None identified
Fragmentation:	None identified
Disruption:	None identified
Disturbance:	None identified
Change to key elements of the site (e.g. water quality etc.):	None identified
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	None identified

Finding of no significance effect report:	
Name of project or plan:	Aquaculture production of oysters (<i>C. gigas</i>) in Castlehaven Bay, Co. Cork.
Name and location of Natura 2000 site It would be helpful for a map or plan to be provided:	Castletownshend SAC (Site code: 001547), Myross Wood SAC (Site Code: 001070), Sheeps Head to Toe Head SPA (Site Code: 004156) and Lough Hyne Nature Reserve and Environs SAC (Site Code: 000097) – See Figure 1.
Description of the project or plan	Oyster culture activity, at Site T05/605A, covering an area of circa 3Ha on the intertidal foreshore in Castlehaven Bay, Co. Cork.
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No.
Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	No.
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.	The cultivation of shellfish in the Castlehaven Bay is not likely to affect the features of adjoining Natura 2000 sites.
Explain why these effects are not considered significant.	<p>There is no spatial overlap of the proposed aquaculture activities Natura 2000 sites. In addition, there would be no interference with key relationships that define the function of the sites. The culture activities will not result in habitat loss, there will not be significant disturbance to key species and there will be no habitat or species fragmentation. There will be no direct discharge of pollutants into the environment and water quality will not be affected. Consequently, it is concluded that the culture of shellfish as it is currently proposed, in Castlehaven Bay area does not pose significant risk to the conservation features of the adjacent Natura 2000 sites and as such does not require a full appropriate assessment.</p> <p>On the basis of the above it is considered that there will be <u>no significant effects</u> on the qualifying feature / interests' of the Natura 2000 sites.</p>
Who carried out the assessment?	Marine Institute, January 2019

Figure 1: Location of aquaculture site in Castlehaven Bay and adjacent Natura 2000 sites

