

Natura Impact Statement for planning application by  
Marine Harvest Ltd to Mayo County Council for proposed  
site development at Portlea, Clare Island, Westport, Co.  
Mayo



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Cover Photograph: View looking east/northeast from proposed site entrance with main site interior in foreground

## **Table of Contents**

### **Executive Summary**

#### **1.0 Introduction**

##### **1.1 Statement of Qualification**

#### **2.0 Methodology**

#### **3.0 Relevant Natura 2000 Sites**

#### **4.0 Existing Environment and Nature of the Proposed Development**

##### **4.1 Location**

##### **4.2 Site History and current usage**

##### **4.3 Description and planned usage of development**

##### **4.4 Surrounding Environment**

##### **4.5 Existing In-Situ Environment and Habitat Classification**

##### **4.6 Site Ecological Evaluation**

#### **5.0 Predicted Impacts and Mitigation for Natura 2000 sites**

#### **6.0 Screening Statement and NIS Conclusions**

#### **7.0 References**

#### **Appendix 1 – Site photographs**

#### **Appendix 2 – Clare Island Cliffs SAC and SPA site synopses**

## **Executive Summary**

This Natura Impact Statement (NIS) was undertaken to accompany a planning application for the construction of a reservoir at Portlea near Maum on Clare Island, Co. Mayo. This NIS constitutes the findings of the Screening phase of the Appropriate Assessment procedure for planning applications in the vicinity of Natura 2000 sites. The relevant Natura 2000 sites are the Clare Island Cliffs Special Area of Conservation (SAC) and Clare Island Special Protection Area (SPA). None of the habitats or species which constitute the qualifying criteria for the SAC and SPA were found in the proposed site vicinity during a site visit conducted on 30/10/12.

It is the conclusion of this NIS that the proposed development will have no significant direct, indirect or cumulative/combined impacts on the Clare Island Cliffs SAC and Clare Island SPA providing best practice guidelines are rigorously adhered to during the construction and utilisation phase of the proposed development. This finding was confirmed in consultation with local National Parks and Wildlife Service personnel (NPWS). Therefore further phases of the Appropriate Assessment procedure for the proposed site development application should not be deemed necessary.

### **1.0 Introduction**

This Natura Impact Statement (NIS) was undertaken to accompany plans for the development of a reservoir at Portlea near Maum on Clare Island, Co. Mayo. In preparing this NIS the following documents were consulted: 'Circular NPW 1/10 & PSSP 2/10 (March 2010)' and 'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2009),' (both documents are issued by Department of Environment, Heritage and Local Government). In addition, the following European Union published documents were consulted:

- European Commission (2000). Managing Natura Sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC. Office for Official Publications for the European Communities, Luxembourg.
- European Commission (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 for the European Communities, Luxembourg.
- European Commission (2007). Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC: Clarification of the concepts of: alternative solutions, imperative reasons of over-riding public interest, compensatory measures, overall coherence, opinion of the Commission.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice. Office for Official Publications for the European Communities, Luxembourg.

In keeping with the guidelines outlined in the above documents, the aims of this report are to produce an NIS through following the procedure outlined for Appropriate Assessment (This particular NIS constitutes the findings of the Screening Phase of the Appropriate Assessment procedure). The aims of this report can therefore be summarised as follows :

- To identify the relevant Natura 2000 sites and compile information on their qualifying interests and conservation objectives

-To describe the site development and its receiving environment

-To assess the potential for significant direct, indirect and combined impacts on Clare Island Cliffs SAC and Clare Island SPA caused by the site development (thereby necessitating full Appropriate Assessment).

-To produce a Natura Impact Statement with conclusions, including determining if further assessment beyond the Screening phase of the Appropriate Assessment procedure is necessary.

### **1.1 Statement of Qualification**

I hold an MSc in Ecological Assessment and a BSc in Marine Science. I am experienced in ecological surveying in the west of Ireland.

### **2.0 Methodology**

A desktop survey was initially conducted to ascertain the qualifying interests and conservation objectives of the relevant Natura 2000 site along with its likely ecological connectivity to the proposed site development. Consultation with important stakeholders in the Natura 2000 sites, including local National Parks and Wildlife Service (NPWS) personnel, was also undertaken. A site visit was conducted on 30/10/12. The area around the proposed site was walked over with the observed habitats noted and mapped. Fosset's 'A Guide to Habitats (2000)' was used to classify the habitats in the proposed site vicinity. The class and structure of habitats in the site vicinity were noted. Particular attention was paid to signs of bird and mammal activity along the riverbanks - namely tracks, burrows, nests, faecal and feeding material. The physical structure of the stream and stream bed was noted.

Digital photographs of key vegetation and physical features of the site and surrounding environs were taken and are enclosed in the relevant sections of the report. All plant species present within the site were identified and recorded and species lists are contained in Section 4.5.

### **3.0 Relevant Natura 2000 Sites**

This NIS was specifically conducted for the Clare Island Cliffs SAC (Site code 002243) and SPA (Site code 004136). Figure 1 shows the site location in relation to the SAC and SPA boundaries. The SAC boundary runs along the eastern boundary of the main site.

Key qualifying criteria of the Clare Island Cliffs SAC include the presence of three habitats listed under Annex 1 of the EU Habitats Directive, namely (number in brackets denotes habitat or species code):

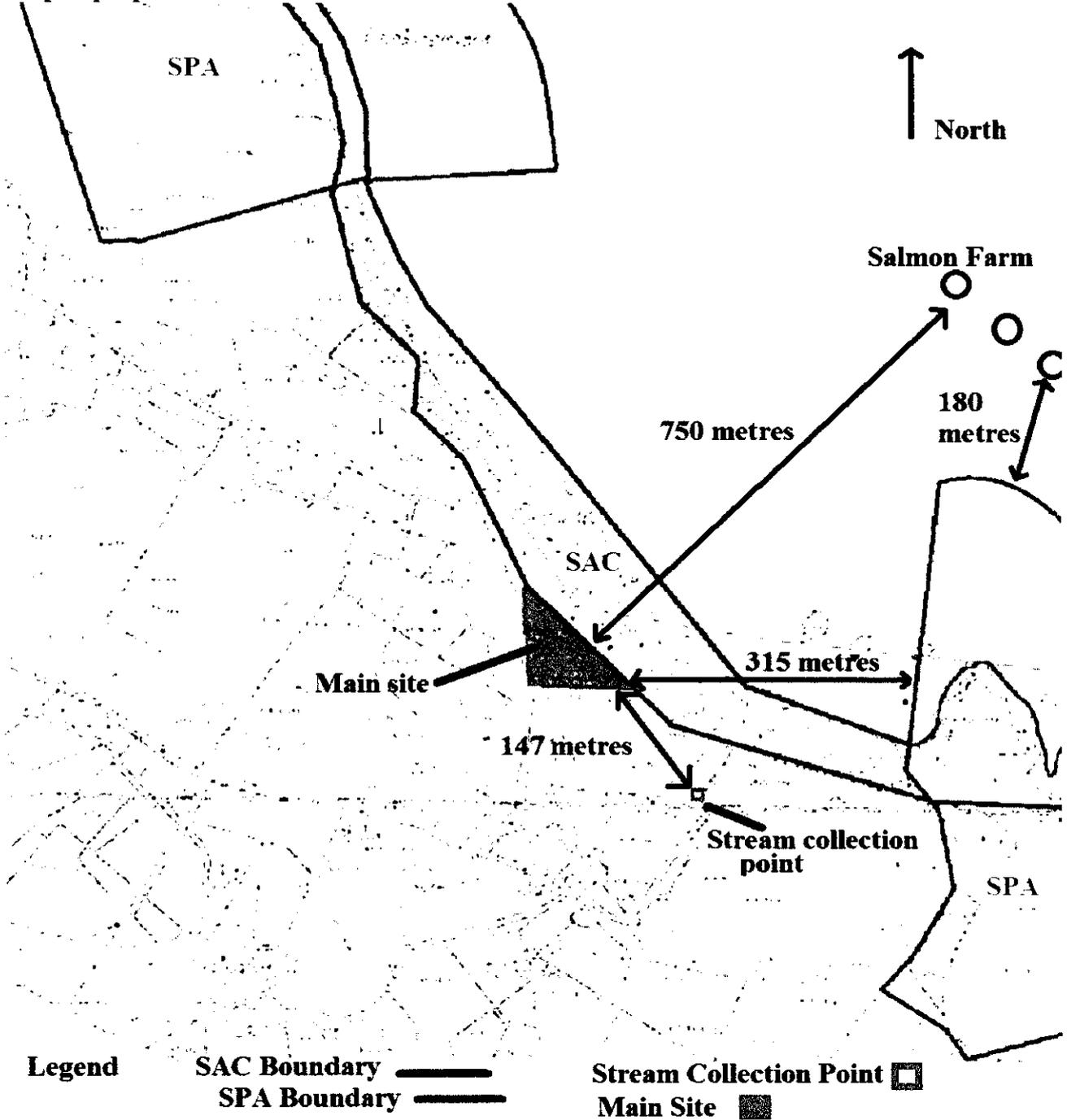
-[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts

-[8210] Calcareous rocky slopes with chasmophytic vegetation

-[8220] Siliceous rocky slopes with chasmophytic vegetation

These habitats are generally confined to elevated mountainous terrain or north-east facing cliff locations and are characterised by assemblages of rare specialised plant species, some of which are alpine 'relics'.

**Map of proposed site location in relation to Clare Island Cliffs SAC and Clare Island SPA**



**Figure1:** Map showing site location in relation to Clare Island Cliffs SAC and Clare Island SPA

The SPA is divided into 2 sections with the main section encompassing the northern and western coastline of the island and a smaller section wrapping around the easternmost part of the island. The proposed site at Portlea is located almost midway between the two sections, with the smaller eastern section of the SPA a distance of 315 metres east of the main site. The stream collection point is a distance of 220 metres from the eastern section of the SPA. The main SPA section is a distance of 475 metres north of the main site. Key qualifying criteria of the Clare Island Cliffs SPA include the presence of 7 bird species, namely:

- Fulmar *Fulmarus glacialis* [breeding ]

- Shag *Phalacrocorax aristotelis* [breeding ]
- Common gull *Larus canus* [breeding ]
- Kittiwake *Rissa tridactyla* [breeding ]
- Razorbill *Uria aalge* [breeding ]
- Guillemot *Alca torda* [breeding ]
- Chough *Pyrrhocorax pyrrhocorax* [breeding ]

All of these species are protected under the EU Birds Directive. All except Chough are seabirds. The island's cliff habitats host breeding colonies of all 6 seabird species. Chough are a terrestrial species which have an affinity for upland habitats and nest in remote cliff and mountainous locations. Although not included in the qualifying criteria, another species listed on Annex 1 of the Birds Directive, Peregrine Falcon (*Falco peregrinus*) is present on the island.

A full synopsis of the qualifying criteria of the Clare Island cliffs SAC and SPA is enclosed in Appendix 1.

## **4.0 Existing Environment and Nature of the Proposed Development**

### **4.1 Location**

The site is situated adjacent to Portlea bay near Maum in the north east of Clare Island. The main site has an Irish grid reference of L705866. Access to the site is by a single lane rough track which branches off the main Maum road approximately 180 metres southwest of the site. The track diverges in two directions at the inland corner of the site with both side-tracks ending near the shoreline to the north and south of the site. The Clare Island salmon farm is located a distance of approximately 750 metres east of the proposed site.

### **4.2 Site History and current usage**

The land within the site is currently used for moderate intensity grazing of sheep. The outlines of lazy beds are visible in the lower section of the site which indicates historical cultivation of the land.

### **4.3 Description and planned usage of development**

The proposed development consists of a reservoir with a surface area of 2,300 square metres and a depth of 2 metres. The location of the reservoir is in the shaded triangular area shown in Figure 1 and labelled as the 'main site'. Water is to be piped into the reservoir via an above ground pipe from the stream to the south-east. The piped water is to be collected from the stream approximately 50 metres above the point where the stream meets the shoreline. Distance from the stream collection point to the main site is approximately 147 metres. Construction of the reservoir will entail excavation of material from within the site. Some of the excavated material will be used to construct a 2 metre high capping wall on top of the existing bank of rocks on the shoreward boundary of the site. The purpose of the reservoir is to provide a local source of freshwater for usage by well-boats on the nearby Salmon farm whenever an outbreak of infectious amoeba disease occurs. Temporary immersion of salmon in freshwater is the prescribed treatment for the disease. This is carried out by transferring the salmon from their holding pens into a holding tank on a large well boat which is filled with freshwater. During periods of demand the well-boat will wait in deep water near the shoreline (at high tide) and water will be pumped aboard from the reservoir via a mobile pump. Due to the unpredictable nature of the disease, it is hard to project precise demands for water from the reservoir. However, the disease generally occurs on a seasonal basis in

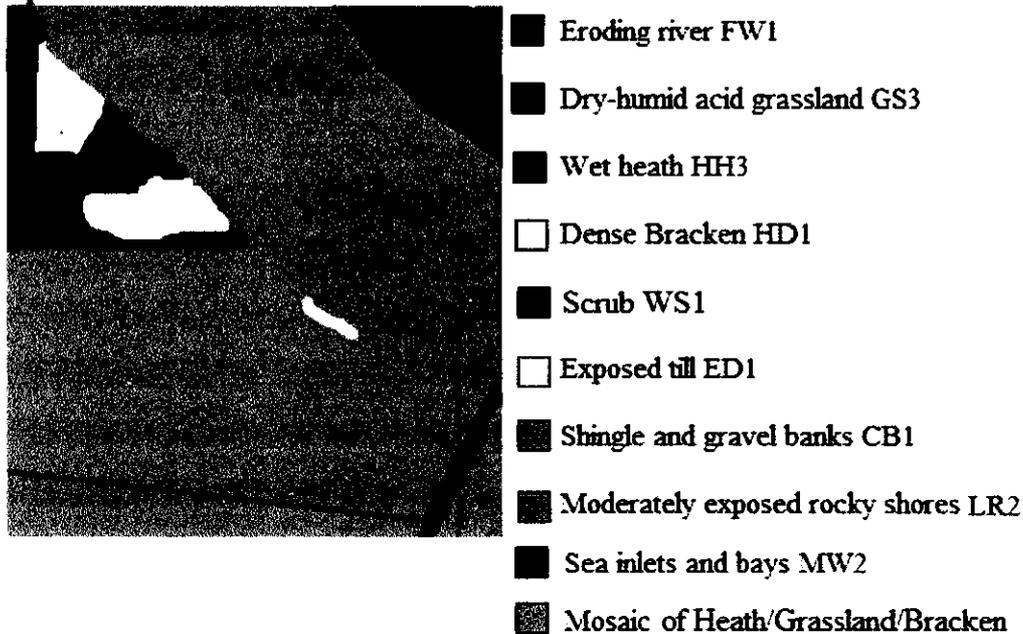
correlation with higher water temperatures, therefore the main periods of demand are likely to occur from June to August. Total annual demand is likely to equate to a maximum frequency of 2-3 treatments per cage. As there are 8 stocked cages at the farm, maximum annual usage should equate to 24 refills from the reservoir. Distance from the reservoir to the salmon farm is approximately 750 metres. In-stream flow at the proposed pipe collection point equates to a volume of 100 litres per second during periods of low flow. It is anticipated that approximately half of this volume (ie.50 litres per second) will be diverted through the pipeline into the reservoir on a constant basis, with the remaining volume of water in the stream continuing onwards to it's original fall point on the shoreline. Excess water within the reservoir will be released on to the adjacent upper shore. The planned period of construction for the entire development is 3 months.

#### **4.4 Surrounding Environment**

The site is located near the middle of Portlea shore. The shore is east facing and the terrestrial terrain near the shore is low-lying. Terrain profile close to the inland side of the site is moderately undulating with many exposed large rocks and slabs of silicious rock. As one moves inland to the west the countryside becomes steeper and more mountainous. The layout of the countryside surrounding the site is typical of Clare island, mainly comprising medium to large sized open fields, much of which are held as commonage. The land east of the stream comprises a heavily grazed wet heath and dry humid acid grassland mosaic. This habitat appeared somewhat degraded due to grazing activity. The land west of the site is contiguous with that observed within the main site, comprising a mosaic of wet heath, acid grassland and dense bracken habitat. The land north-west of the site opens into a more gently sloped swathe of wet heath habitat dominated by Purple moor grass (*Molinia caerulea*). This habitat stretches to the north and west. One of the few tranches of woodland on the island occurs approximately 400 metres northwest of the site and appeared to comprise a modest area of damp woodland containing willow and alder.

The north east facing boulder shoreline is located directly adjacent to the proposed site. The profile and composition of the shore is fairly uniform along the entirety of the straight shoreline with the supralittoral zone grading straight into relatively low-lying terrestrial habitats. The terrain transitions rapidly to headlands with steep cliffs overlooking deep water as the shoreline bends towards the east at either end of the bay (These headlands protrude to the east, forming a wide short bay with the shore at the inner end of the bay). These cliff habitats are of high conservation value through providing potentially suitable terrain for several Annex 1 habitats (on the EU Habitats Directive) as well as potential breeding habitat for a number of important bird species. This is reflected by the inclusion of these areas in the SAC and SPA.

## Habitat map of Portlea Site



**Figure 2:** Map of existing habitats at Portlea site as classified using Fosset (2000) on 30/10/12

### 4.5 Existing In-Situ Environment and Habitat Classification

Figure 2 shows the existing site habitat map which is based on field observations made on 18/10/12. Fosset (2000) was used as a guideline for habitat classification. A variety of upland, freshwater, coastal and marine habitats were mapped in the site vicinity. The 'upland' habitats included the following (Note that the term 'upland' in this instance refers to the botanical features of a habitat and not to its elevation):

- Dry Humid Acid Grassland GS3
- Wet heath HH3
- Dense Bracken HD1
- Scrub WS1

#### Dry Humid Acid Grassland GS3 / Wet heath HH3 / Dense Bracken HD1

Aside from the scrub habitat, the entirety of the main site interior, as well as the area between the main site and the stream collection point, comprised a somewhat elastic matrix of the above upland habitats. Table 1 shows a list of the vegetation observed in the above habitats and the scrub habitat. The habitat within the main site was structured as follows:

Soil moisture levels generally increased moving downhill towards the east of the site. Large conglomerate boulders (1-1.5 metres diameter) were occasional throughout the habitat. Open acid grassland habitat predominated in higher sections near the inland boundaries of the site and comprised a grazed sward of crested dog's tail, fescues, bents and *Molinia*. Herb cover in the habitat was moderate, including occasional white clover, sheep's sorrel, thistles and heath bedstraw. Common rush was frequent throughout. Moss species were abundant throughout and included *Hylocomium splendens*. Bracken was frequent throughout and approached a percentage cover of 50% in much of the habitat. Where bracken plants proliferated, percentage cover of shade tolerant herbs also increased with a commensurate decrease in grasses. Shade tolerant herbs present included abundant wood sorrel with occasional Lesser celandine and Foxglove.

The habitat frequently graded into areas where percentage cover of Bracken exceeded 50%. Such areas were classified separately under the category of dense bracken – HD1. Dense bracken is often characterised by low species richness due to the shading effect of bracken plants. However in this

area percentage cover generally only just exceeded 50%, with individual bracken plants sufficiently spaced to allow grasses and shade tolerant herbs to proliferate between the stems with moss species including *Hylocomium splendens* again abundant. The vegetation composition of the 'understorey' plants was similar to that described for the grassland habitat, albeit with an increased proportion of shade tolerant herbs including abundant wood sorrel, frequent lesser celandine and frequent foxglove.

The bracken and dry humid acid grassland habitats frequently graded into, or formed mosaics with, the wet heath habitat. 2 forms of wet heath habitat were present in the site. The first form adhered to a more typical vegetation composition for this habitat type, with ericoid species dominating. Ling and Bell Heather appeared to be the main ericoid species, however the plants were closely grazed which made identification of individual heather species difficult. The moss species *Thuidium tamariscinum* was abundant throughout along with frequent small clumps of *Sphagnum capillifolium*. Carnation Sedge and Mat-grass were occasional. The second form of wet heath was a low species richness type dominated by *Molinia* which grew in large densely spaced tufts. Space for other grasses and herbs was severely restricted in this habitat. Individual *Molinia* plants were well-developed and evidence of grazing on *Molinia* plants was restricted to small sections of the habitat, suggesting that sheep preferentially grazed the other habitat forms within the site.

The land west of the main site (shown in orange in Figure 2) comprised a similar matrix of the afore-mentioned habitats albeit with an increase in the typical ericoid dominated wet heath form and a proportional decrease in the occurrence of the *Molinia* dominated form.

#### Scrub WS1

The habitat occurred in an L-shaped patch in the east of the site as shown in Figure 2. Cover mainly comprised low, bushy Willow trees approximately 2 metres in height and 3 metres in diameter. The larger section straddled the boundary between the heath and shingle bank with the smaller section pointing inland along the wet heath habitat. Bramble was abundant amongst the Willow and the larger section featured an understorey of Ivy and Herb-robert on the underlying stones.

**Table 1:** Plants observed within main terrestrial habitats (X denotes presence in a constituent habitat)

Common Name	Species Name	Dry humid acid grassland	Wet heath	Dense Bracken	Scrub
Bell Heather	<i>Erica cinerea</i>	X	X		
Bramble	<i>Rubus fruticosus</i>				X
Bracken	<i>Pteridium aquilinum</i>	X		X	
Broadleaved Dock	<i>Rumex obtusifolius</i>	X		X	
Cross-leaved Heath	<i>Erica tetralix</i>	X	X		
Carnation Sedge	<i>Carex panicea</i>		X		
Common Rush	<i>Juncus effusus</i>	X	X	X	
Common Bent	<i>Agrostis capillaris</i>	X		X	
Crested Dog's-tail	<i>Cynosurus cristatus</i>	X		X	
Foxglove	<i>Digitalis purpurea</i>	X		X	
Herb-robert	<i>Geranium robertianum</i>				X
<i>Hylocomium splendens</i>	<i>Hylocomium splendens</i>	X	X	X	
Ivy	<i>Hedera helix</i>				X
Jointed Rush	<i>Juncus articulatus</i>			X	
Lesser Celandine	<i>Ranunculus ficaria</i>			X	
Ling Heather	<i>Calluna vulgaris</i>	X	X		
Marsh Thistle	<i>Cirsium palustre</i>	X		X	
Mat-grass	<i>Nardus stricta</i>	X	X		
Perennial Rye Grass	<i>Lolium perenne</i>	X			
Purple moor grass	<i>Molinia caerulea</i>	X	X		
Red Clover	<i>Trifolium pratense</i>	X			
Ribwort Plantain	<i>Plantago lanceolata</i>	X			
Sphagnum moss	<i>Sphagnum capillifolium</i>		X		
Sheep's Sorrel	<i>Rumex acetosa</i>	X		X	
Sheep's Fescue	<i>Festuca ovina</i>	X		X	
Tormentil	<i>Potentilla erecta</i>	X	X		
<i>Thuidium tamariscinum</i>	<i>Thuidium tamariscinum</i>	X	X	X	

White Clover	<i>Trifolium repens</i>	X			
Willow	<i>Salix sp.</i>				X
Wood-sorrel	<i>Oxalis acetosella</i>	X		X	

#### Exposed Till ED1

This habitat occurred approximately 20 metres west of the main site and comprised a small, short boulder clay cliff (10 metres wide with a peak height of 3 metres). Vegetation was absent. The cliff straddled the boundary zone between the shingle bank and mixed upland habitats. A gentle gradient predominated along the rest of this boundary zone. Cliffs were absent from the remainder of the site vicinity.

#### Shingle and gravel banks CB1

The eastern boundary ran parallel to a bank of rocky material which was contiguous with the larger boulder habitats of the littoral shore to the east. This bank was classified as 'Shingle and gravel banks CB1'. This category requires the majority of rocky material to be less than 256 mm in diameter. In this instance much of the material exceeded 256mm, however the category was deemed the most appropriate as it was above the high tide mark and no other suitable categories were contained in Fosset (2000). The material comprised a fairly random assortment of larger rectangular conglomerate stones (up to 400 mm long) and a variety of smaller rectangular and somewhat rounded sandstone and conglomerate material (30mm to 200 mm long). The top section of the bank comprised a wide, flat deposition of material which appeared stable but was devoid of vegetation except for some Bramble, Ivy and Herb-robert which were encroaching from the landward side where the habitat immediately graded into wet heath and scrub habitats. The shoreward side of the bank slopes relatively steeply down to the top of the littoral zone where the sloped profile of the shore eases slightly. The size of the rocks in the bank increased moving downwards towards the littoral shore.

#### Moderately exposed rocky shores LR2

The entirety of the littoral shore was comprised of sandstone boulders. The size of boulders (1-1.5 metres in diameter) indicated a moderate level of exposure to waves. This habitat was classified as 'Moderately exposed rocky shores LR2'. The profile of the upper section of the littoral zone remained quite steep before easing in the mid to lower section where the gradient became gentle. Boulders were quite tightly spaced in the mid to upper zone and became more widely spaced in the flatter lower zone. Here, spaces between large boulders were frequently occupied by small rockpools and smaller rocks. Vegetation growth was largely absent from the mid to upper zone and in the lower zone was mainly confined to rockpools where Carrageen (*Chondrus crispus*) was the main species. Sessile invertebrates were largely absent in the upper shore and became frequent in the mid to lower shore and comprised abundant Common Limpet (*Patella vulgata*) along with frequent Common Periwinkle (*Littorina littorea*), Beadlet anemone (*Actinia equina*) and Toothed top shell (*Monodonta lineata*).

#### Sea inlets and bays (MW2)

This category type was appropriate for the marine section to the east of the littoral shore and comprised the marine water body within Portlea bay.

#### Eroding upland river (FW1)

This category corresponds with the stream from which it is proposed the pipeline will carry water to the reservoir. The stream is approximately 1-1.5 metres wide and plots a fairly straight course from the point at which it departs downhill from the main Maum road. The stream's course from the main

road to the seashore measures a distance of approximately 205 metres and drops a vertical distance of approximately 30 metres along its course. The downward gradient of the stream gradually increases along its course with the last section steepening significantly as it approaches the shoreline. The stream is actively eroding and forms a small steep sided v-shaped valley/gully which deepens on both sides as it approaches the sea with the streambed 2-3 metres below the topsides of the valley/gully. The stream flows over a bed of exposed conglomerate and sandstone rock. The bedrock has been eroded in a 'blocky' pattern with numerous sections of exposed horizontal slabs and rock faces. The stream's resultant flow structure consists of a series of boulder strewn pools and riffles punctuated by very frequent (every 3-6 metres) vertical drops of 30cm – 1 metre. In-stream boulders were generally angular and blocky in shape and ranged in size from 20cm to 50cm in length. Vegetation was largely absent from within the stream. Riparian vegetation was largely absent with surrounding vegetation mainly comprising well grazed dry humid acid grassland habitat interspersed with swathes of Bracken. Some steeper sections of the valley/gully sides were inaccessible to grazers and vegetation in such sections was dominated by ericoid species (Heather) with some *Montbretia* also present. An estuary was absent at the stream's meeting point with the sea. Instead the stream drops straight into the boulders above the littoral shore where the water then percolates through the boulders for 10 metres before re-emerging in a dispersed series of small rivulets in the mid to upper littoral shore. The physical structure of the receiving littoral shore did not vary from the surrounding shoreline (comprising a graded boulder shore). From a biological point of view, the only discernible influence of the stream on the receiving shoreline was a small mat of *Ulva enteromorpha* on the boulders in the mid-shore where the freshwater emerged.

#### 4.6 Site Ecological Evaluation

None of the habitats documented within the site were found to correspond with the Annex 1 categories included in the SAC qualifying criteria. The majority of the terrestrial habitat neighboring the rocky shoreline at Portlea is relatively low-lying. The cliff environment favoured by the plant species which constitute the qualifying habitats of the SAC is absent from the site vicinity. The site and its surroundings are similarly devoid of roosting and breeding habitats for the Chough and seabird species which constitute the qualifying criteria for the SPA. The only fragment of cliff terrain in the site vicinity is too low (at just 3 metres) to facilitate the development of such habitats. The majority of the site interior was dominated by upland habitats. These habitats were relatively species poor, are locally common and were not deemed to be the best locally occurring examples of the habitats. Therefore the local conservation value of the terrestrial habitats in the site vicinity is deemed to be low to moderate. The fact that scrub vegetation is largely absent from most of the Clare Island coastline elevates the scrub habitat to moderate local value due to its value to coastal passerine (song birds) bird species. The shingle and gravel banks habitat category is something of a misnomer as the size and shape of stones surpasses those normally found in this category. This area is devoid of vegetation and the jagged edges and large size of the stones precludes it from being used as a nesting site by seabird species. The primary value of this habitat is as a natural coastal protection barrier for the adjoining terrestrial habitats. The abrupt endpoint of the stream makes it inaccessible to migrating eels and salmon. The lower stretch of the stream is largely devoid of in-stream vegetation and is therefore of low to moderate conservation value. The littoral shore habitat contains scarce amounts of vegetation and generally exhibited low species richness albeit with several invertebrates species frequent throughout. The shore may act as a foraging habitat for otter\* and bird species and the shape and profile of the shore is locally rare, therefore the section of shore adjacent to the site is deemed to be of high local conservation value.

\*Otters are not included in the qualifying criteria for the SAC, however as an Annex 1 listed species with potential to occur in the area, the suitability of the site for otters was assessed. No signs of

otters, including prints, holts or spraints were observed in the survey area. The terrain occupying the boundary zone between the littoral and terrestrial habitats is not likely to be suitable for construction of holts. However the shore habitats, particularly in the lower littoral zone, are likely to be suitable for foraging.

Within the wider site vicinity, as previously stated, the key areas of high international conservation importance are the cliff environments which commence at the north and south ends of Portlea shore, at distances of 475 metres and 315 metres respectively from the main site. These cliff environments contain habitats corresponding with the qualifying criteria of the SAC as well as breeding habitat for the bird species included in the qualifying criteria of the SPA. The interlying area between the cliffs and the proposed site is not contiguous with the cliff habitat, instead being low-lying and exhibiting a habitat structure similar to that described in the immediate site vicinity.

## **5.0 Predicted Impacts and Mitigation for Natura 2000 sites**

The precautionary principle was applied in assessing the potential for any cumulative, direct or indirect effects accruing on the SAC and SPA .

### **Cumulative Effects**

A search of Mayo County council's planning database revealed no other similar developments are currently planned for Clare Island. Therefore no cumulative (combined) impacts caused by the proposed site development in conjunction with other developments on the SAC/SPA is predicted.

### **Direct Impacts**

#### **Pollution**

Given the proximity of both the main site and stream to the shore, one potential negative impact on the SAC/SPA could arise via point source pollution during the construction phase of the project. Such an event would result in a direct impact on the receiving shore within the SAC and a large pollution event could also impact the seawater quality within the SPA.

Possible causes of such pollution may include inflow of excavated material, liquid concrete or dust in solution on to the shore during construction and installation of the reservoir, pipeline and stream collection point. Although the impacts of such an event would be temporary, best practice guidelines must be rigorously adhered to during construction on the site to avoid such an event occurring.

Post-construction, a pollution threat emanating from the reservoir should not exist, providing the water being piped from the stream is of reasonable quality. A potential pollution risk may arise during transfer of water from reservoir to well-boat due to fuel spillage from the mobile pump or from the main engine of the well-boat. The potential for such event occurring should be eradicated providing best practice guidelines are followed during the operation. This includes factors such as conducting the operation in appropriate weather and tide conditions, positioning of the well-boat at a safe distance from shore and correct usage and maintenance of mobile pump and well-boat equipment. It should be noted that it is in the salmon farm's own interest to ensure best practice guidelines are adhered to in minimising pollution risks. The reservoir water needs to be of good quality for treating fish and the farm's proximity to the site (750 metres) and downwind location in prevailing south-westerly winds would make it vulnerable in the event of a fuel spillage near the reservoir.

## Habitat Loss/ Damage

The habitat loss associated with the site development will comprise the entirety of the main site. This entails the loss of approximately 2,200 square metres of grassland, wet heath, dense bracken and scrub habitat. However the observed habitats within the site were deemed to be of low to moderate conservation value. Such habitats are locally widespread. Therefore the loss of the habitats is not deemed to be significant, particularly in the context of the SAC and SPA (**Note**, Excess excavated material needs to be deposited in an appropriate location that is not ecologically sensitive to avoid significant habitat loss or damage elsewhere).

The loss of the scrub vegetation will have a minor temporary effect on local bird populations. However this will be mitigated by the planting of appropriate vegetation around the reservoir after construction is completed. A narrow (1-2 metres wide) 97 metre long section of the surface area of the adjoining rocky bank (classified as 'shingle and gravel banks') will also be lost due to the capping of excavated material above it. This section of the rocky bank is within the SAC, however it's loss should not effect the integrity of the SAC or SPA as the habitat was not deemed to correlate with any Annex 1 category habitats (including those included in the qualifying criteria for the SAC) and was deemed to be unsuitable as a bird breeding habitat. Correct insertion of stable capping material on top of the rocky bank should ensure the structural and ecological stability of the supralittoral and littoral habitats below the development. The top of the rocky bank is deemed to be sufficiently high above the littoral shore to prevent eroding wave action being reflected when capping material is inserted. Habitat loss associated with the stream collection point and pipeline should be negligible. A reduction in stream volume over the last 50 metres should not have a significant impact as the remaining flow should be sufficiently strong to maintain the existing in-stream environment and specific habitats are associated with the fall-point of the stream on the shore.

During water transfer from reservoir to well boat, it is anticipated that small boats will land on the shore with some associated footfall on the shore. This will primarily occur during higher stages of the tide, therefore the main potential impact area will be in the mid to high shore. This section of the shore is particularly robust in it's physical structure and devoid of plant or animal communities which would be vulnerable to trampling. Therefore no significant erosion or destruction of the mid to higher littoral shore habitat should occur.

## Indirect impacts

### -Disturbance

A potential indirect impact, particularly in the context of the SPA, is noise and to a lesser extent, visual disturbance emanating from outside of the SPA. The distance from the main site to the nearest section of the SPA is 315 metres. This exceeds the distance of 300 metres used by NPWS in establishing an inland buffer zone for the cliff habitats when drawing the SPA boundaries. Furthermore the majority of the main site is shielded from view of the cliffs within the SPA by the the interlying land. Therefore the issue of construction related noise and visual disturbance emanating from the main site should be negligible. Any potential disturbance arising from on-site construction should be mitigated by the completion of construction prior to the seabird breeding season which commences in late April. The stream collection point is 220 metres from the SPA boundary. However construction activities in this location should be minor and quickly completed with the location also below the line of sight of the cliffs within the SPA to the south-east. Once the reservoir is in use the main likely disturbance will emanate from boat traffic between the salmon farm and the reservoir. However the predicted frequency of use is not particularly high at a maximum of 28 visits per year. As the salmon farm itself is relatively close to the SPA (part of the salmon farm is just approximately 180 metres east of the SPA boundary), it is likely that a certain degree of habituation to boat traffic exists among the seabird population. However to ensure no

significant impact to roosting and breeding habitat arises, boat traffic commuting from the site to the salmon farm should maintain a distance of 300 metres from the cliffs. This is particularly necessary during the seabird breeding season which generally commences in late April and concludes in late July. Providing this mitigating recommendation is adhered to, the integrity of the SAC and SPA should not be significantly impacted by disturbance arising from the proposed site.

#### **Otters**

The loss of terrestrial habitats from within the site should not impact significantly on otter populations. The site is relatively small compared to the size of individual territories (up to 2km of shoreline - Bailey et al 2006) and similar habitats are widespread elsewhere in the immediate vicinity. No loss of shore habitat should arise from the development, therefore foraging habitat should not be effected. Disturbance arising from construction related activities in the site may have a localised impact, however the effects of construction related disturbances should be mitigated by the short construction period (3 months) and the completion of construction prior to the otter pupping season which commences in May. Disturbance arising from boat traffic approaching the shore should be mitigated by the relatively low frequency of boat visits (28 per year) and the likely habituation of local otter populations to existing boat traffic associated with the nearby salmon farm.

### **6.0 Screening Statement and NIS Conclusions**

It is the conclusion of this report that no significant direct, indirect or combined/cumulative impacts on the Clare Island Cliffs SAC and SPA will arise from the proposed site development providing best practice guidelines are rigorously adhered to during the construction and utilisation phase of the development. This finding was supported and confirmed in consultation with National Parks and Wildlife Service (NPWS) personnel. Therefore it is the recommendation of this report that further phases of the Appropriate Assessment procedure for the proposed site development should not be necessary.

## **7.0 References**

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### **Consultees**

National Parks and Wildlife Service - Eoin McGreal (Southwest Mayo ranger)

John Lambe (Site engineer)

**Appendix 1 – Site photographs**



**Plate 1: View from near south-eastern boundary of main site looking west over main site interior**



**Plate 2: View of rocky bank along eastern site boundary**



Plate 3: View of littoral shore from eastern boundary of site



Plate 4: View looking south-east from inland corner of main site with main site interior in foreground. Note location of sea cliffs in upper right of picture and salmon farm in upper left of picture.



Plate 5: View of stream from just above the shore



Plate 6: View looking south from southern corner of main site. The stream for proposed water collection meets the shore just behind the near hill in the middle of the picture.

## Appendix 2 – Clare Island Cliffs SAC and SPA site synopses

### SITE NAME: CLARE ISLAND CLIFFS SAC

#### SITE CODE: 002243

Clare Island lies at the entrance to Clew Bay, in Co. Mayo, some 5km from the mainland. The island has a diverse geology, being composed of Dalradian sandstones and shales, Carboniferous sandstones, shales and conglomerates, and a variety of Silurian rocks. Much of the low-lying ground is covered by boulder clay and locally-derived glacial drift. Clare Island has been the subject of detailed scientific studies since the early 1900s and its natural history is well documented. The site comprises the coastal fringe of the island, extending from Kinnacorra in the east, along the north coast and around the south-western corner of the island as far east as Tonabrickill. It extends inland on the southern flanks of Knockmore Mountain.

The dominant feature of the island is a ridge that runs east to west, attains a height of 462m at Knockmore Mountain and forms precipitous sea cliffs (400m high) along the north-western shore. Lower sea cliffs occur elsewhere on the northern coastline, as well as on the west and south of the island. Small areas of shingle beach, boulder beach and salt marsh are found on the eastern side of the site, while Knockmore Mountain supports areas of wet heath, upland acid grassland, scree and exposed rock. The sea cliffs of the northern coastline consist of vertical precipices alternating with steep grassy slopes and huge blocks of rock. The cliffs are well vegetated, with grasses and herbs such as Harebell (*Campanula rotundifolia*), Tormentil (*Potentilla erecta*), Thrift (*Armeria maritima*) and Red Fescue (*Festuca rubra*). Along the top of the lower cliffs is found a *Plantago* sward, i.e. low-growing vegetation dominated by Plantains (*Plantago coronopus* and *P. maritima*), in association with some twenty other plant species. On the upper cliffs, there is a concentration of alpine vegetation, which is species-rich and which includes a number of rarities. Here, such plants as Roseroot (*Rhodiola rosea*), Mountain Sorrel (*Oxyria digyna*), Moss Campion (*Silene acaulis*), Alpine Saw-wort (*Saussurea alpina*), Saxifrages (*Saxifraga rosacea*, *S. oppositifolia*, *S. spathularis*, *S. spathularis* x *hirsuta*), Dwarf Willow (*Salix herbacea*) and ferns (*Asplenium viride*, *Polystichum lonchitis*, *Cystopteris fragilis* and *Hymenophyllum wilsonii*) occur, in association with a species-rich bryophyte flora. The cliffs and rocky habitats correspond to three habitats that are listed on Annex I of the E.U. Habitats Directive, i.e. vegetated sea cliffs, chasmophytic vegetation of siliceous rocky slopes and chasmophytic vegetation of calcareous rocky slopes.

The Clare Island cliffs support important colonies of breeding seabirds - a census before 1987 recorded the following: Fulmar (2,555 pairs), Shag (30 pairs), Great Black-backed Gull (30 pairs), Kittiwake (800 pairs), Razorbill (200 individuals), Guillemot (less than 1,000 individuals) and Puffin (less than 100 pairs). The sea cliff colony is one of the largest in the country for Fulmar and one of the largest in Galway and Mayo for Kittiwake, Guillemot and Razorbill. An embryonic Gannet colony exists close to the island. Although it is still very small (1-2 pairs), it is important as it is the most northerly in the country.

In addition to the seabirds, Clare Island is important for a number of other bird species, notably three which are listed on Annex I of the E.U. Birds Directive - Peregrine (1 pair), Chough (10 pairs in 1992) and Barnacle Goose (less than 50 individuals).

Several rare Red Data Book plant species have been recorded from the site, including

Holly Fern, Moss Campion, Purple Saxifrage, Alpine Saw-wort, Heath Cudweed (*Omalotheca sylvatica*) and Sea Pea (*Lathyrus japonicus*).

The site is of considerable conservation significance for the presence of good examples of three habitats that are listed on Annex I of the E.U. Habitats Directive. Of additional significance is the presence of important seabird colonies, of populations of three species that are listed on Annex I of the E.U. Birds Directive, and of a variety of rare Red Data Book vascular plant species.

**SITE NAME: CLARE ISLAND SPA**

**SITE CODE: 004136**

Clare Island lies at the entrance to Clew Bay, in Co. Mayo, and some 5 km from the mainland. The island has a diverse geology, being composed of Dalradian sandstones and shales, Carboniferous sandstones, shales and conglomerates, and a variety of Silurian rocks. The site comprises all of the cliffs on the island, a length of approximately 10 km, as well as the land adjacent to the cliff edge (inland for 300 m) and the adjacent marine waters (to distances of 200 m or 500 m, depending on auk distribution); marine waters are included to provide areas for foraging and socialising activities for breeding seabirds.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Chough, Fulmar, Shag, Kittiwake, Common Gull, Guillemot and Razorbill.

The cliffs on the northern coast consist of vertical precipices alternating with steep grassy slopes and huge blocks of rock. The vertical cliffs are up to 100 m high in places. The less sheer cliffs are well-vegetated with a maritime sward, including such species as Thrift (*Armeria maritima*), Sea Campion (*Silene vulgaris* subsp. *maritima*) and Red Fescue (*Festuca rubra*). A plantain (*Plantago*) sward occurs along the tops of some of the cliffs. The cliffs in the south-west and eastern sectors of the site are lowlying. Clare Island is one of the most important seabird colonies in the country. It is of particular importance for Fulmar, supporting 4,029 pairs – this is the largest population in the country and represents 12% of the national population. It also has nationally important populations of Shag (89 pairs), Common Gull (39 pairs), Great Black-backed Gull (24 pairs), Kittiwake (1,785 pairs), Guillemot (1,528 pairs), Razorbill (354 pairs) and Black Guillemot (62 individuals) – all seabird data from 1999. Whilst the Gannet colony (3 pairs) has not grown to any extent since its establishment in the 1970s, it is still of significance in that it is one of only five in Ireland and the only colony on the west coast. Other breeding species include Puffin (48 pairs), Cormorant (32 pairs), Lesser Black-backed Gull (14 pairs) and Herring Gull (23 pairs). Most of the seabird species appear to have increased since the last census in 1990, and the Cormorant colony has only become established since then. Herring Gull numbers, however, have decreased dramatically since 1982, reflecting a trend that has occurred throughout the country. It has been suspected in the past that Storm Petrel breed on the island, but there have been no recent attempts to prove nesting.

Clare Island is an important stronghold for Chough, with 16 breeding pairs recorded in 2002/03. The birds nest on the cliffs and studies have shown that Chough forage mainly within 300 m of the coast. The island is a traditional nesting site for Peregrine, with at least one pair present in most years.

The first main survey of the breeding seabirds of the island was carried out as part of the well-known 1909-11 Clare Island Survey. The 1999 survey was carried out as part of the 'New Survey of Clare Island'.

There are no known significant threats to the breeding seabird populations or indeed to the other birds on the island.

Clare Island is one of the top seabird sites in the country, having nationally important populations of eight species, including the largest population of Fulmar in the country. It is also of note for the diversity of breeding seabirds, with 13 species breeding regularly. The site also has a nationally important population of Chough and contains nesting Peregrine – the occurrence of these two species is of note as they are listed on Annex I of the E.U. Birds Directive.

13.11.2006