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1.0 THE APPROPRIATE ASSESSMENT PROCESS

INTRODUCTION

There is a requirement, under Article 6(3) of the ED Habitats Directive (Directive 92/43/EEC), to carry out an Appropriate Assessment. The first step of the Appropriate Assessment process is to establish whether, in relation to a particular plan or project, Appropriate Assessment is required. Article 6(3) states:

'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4. the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and. if appropriate, after having obtained the opinion of the general public.'

A number of guidance documents on the appropriate assessment process were consulted during the preparation of this NIS. These are:

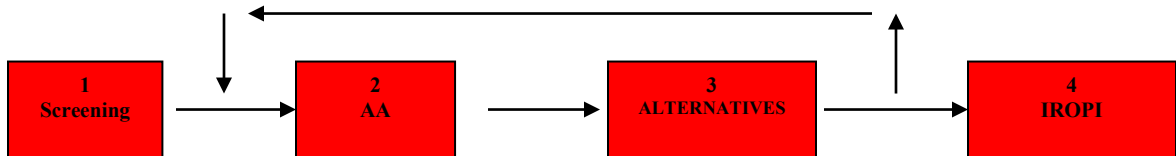
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (NPWS 2009, Revised February 2010);
- Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (Nov. 2001 - published 2002); and
- Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000).
 - EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (2007);

Where it cannot be deduced or proven with certainty that a development or plan will not have a significant effect on a Natura 2000 site (s) then it is necessary and essential to carry out an appropriate assessment on the ramifications of the development on the Natura site(s) with respect to their features of interest conservation objectives. The guidance for Appropriate Assessment (NPWS, 2009, revised February 2010) states:

"AA is an impact assessment process that fits within the decision-making framework and tests of Articles 6(3) and 6(4) and, for the purposes of this guidance, it comprises two main elements. Firstly a Natura Impact Statement - i.e. a statement of the likely and possible impacts of the plan or project on a Natura 2000 site (abbreviated in the following guidance to "NIS") must be prepared. This comprises a comprehensive ecological impact assessment of a plan or project; it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans and projects, on one or more Natura 2000 sites in view of the sites' conservation objectives. Secondly, the competent authority carries out the AA, based on the NIS and any other information it may consider necessary. The AA process encompasses all of the processes covered by Article 6(3) of the Habitats Directive, i.e. the screening process, the NIS, the AA by the competent authority, and the record of decisions made by the competent authority at each stage of the process, up to the point at which Article 6(4) may come into play following a determination that a plan or project may adversely affect the integrity of a Natura 2000 site".

1.1 STAGES

The European Commission's guidance promotes a four stage process, as set out in Box 1 below, to complete the Appropriate Assessment, and outlines the tests required at each stage. Stages 1 and 2 deal with the main requirements for assessment under Article 6.3 Stage 3 may be part of Article 6(3) or a necessary precursor for Stage 4.



This screening report should include the requisite ecological impact assessment and testing required under the provisions of Article 6(3) by means of the first stage of Appropriate Assessment, the screening process (as set out in the EU Guidance documents).

EU guidance¹ states:

"This stage examines the likely effects of a project or plan, either alone or in combination with other projects or plans, upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant. This assessment comprises four steps:

- 1. determining whether the project or plan is directly connected with or necessary to the management of the site;*
- 2. describing the project or plan and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site;*
- 3. identifying the potential effects on the Natura 2000 site;*
- 4. assessing the significance of any effects on the Natura 2000 site".*

The screening report should also provide the information required for the Competent Authority to establish that Appropriate Assessment (Stage 2) is not required .

¹ Paragraph 3.1 of '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 (Nov. 2001)

1.2 Notes on the Author

The AA has been undertaken by Paul Neary B.Sc. (Env. Sc.) M.Sc (eco tox), whom has previously carried out Ecological surveys and damage assessments on the Kerry Mountains, Ox Mountains, Shores of Lough Conn and Lough Cullin under the auspices of NPWS, he has also been involved in formulating management plans for National Parks and lectured in ecology. A number of his Appropriate Assessment reports have been successfully defended by AN Bord Pleanála in High Court actions taken by objectors whom wished to have the Boards decisions overturned. He has also submitted a number of remedial NIS's directly to An Bord Pleanála under section 261A of the Planning and Development Act the findings of which have been ratified by the Bord.

2.0 APPROPRIATE ASESMENT STAGE 1 SCREENING MATRIX

In accordance with Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC

Planning Application Number
N/A
<u>2.0.1 Development Type</u>
<ul style="list-style-type: none">• Repair and strengthen the existing sea wall for 260m in total along Bundola on the R-313, Belmullet• The design proposal will be to repair the existing sea wall and strengthen it by constructing a concrete ‘skin’ (300mm thick) on the sea side of the existing wall and raising it approx. 1m• Excavation for the foundations will be completed to solid• Reinforced concrete foundation will then be laid from solid / bedrock• Concrete and steel reinforcement will be imported on to site for the construction of the new sea wall• A small tracked excavator will be in use for the duration of the project• A tractor and dump trailer will be in use for the duration of the project• This Project will be governed by tides so there will be shift work involved• The project shall occur during late spring / summer / early autumn as meteorological conditions permit• No work are projected to occur from mid Autumn to Mid Spring due to potential impact from adverse weather conditions.• There is no proposal to remove material from the shore as a result of the project
<u>2.0.2 Development Location</u>
Carn, Belmullet, Co. Mayo
<u>2.0.3 Natura 2000 site(s) within impact Zone</u>
Mullet / Blacksod Bay Complex SAC 000470 Blacksod Bay / Broadhave Bay SPA 004037

2.0.4 Qualifying interests of Natura 2000 site(s)

Mullet / Blacksod Bay Complex SAC 000470

Mudflats and sandflats not covered by seawater at low tide [1140]
Large shallow inlets and bays [1160]
Reefs [1170]
Salicornia and other annuals colonising mud and sand [1310]
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]
Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150]
Machairs (* in Ireland) [21A0]
Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation [3150]
Alkaline fens [7230]
Lutra lutra (Otter) [1355]

Blacksod Bay / Broadhave Bay SPA 004037

Great Northern Diver (*Gavia immer*) [A003]
Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]
Common Scoter (*Melanitta nigra*) [A065]
Red-breasted Merganser (*Mergus serrator*) [A069]
Ringed Plover (*Charadrius hiaticula*) [A137]
Sanderling (*Calidris alba*) [A144]
Dunlin (*Calidris alpina*) [A149]
Bar-tailed Godwit (*Limosa lapponica*) [A157]
Curlew (*Numenius arquata*) [A160]
Sandwich Tern (*Sterna sandvicensis*) [A191]
Dunlin (*Calidris alpina schinzii*) [A466]
Wetland and Waterbirds [A999]

2.1.1 Location (Attach map)

The proposed project is located in the townland of Carns with an address at Belmullet, Co. Mayo and is located along the Southern side of the R313 Road, 621M NW of Belmullet Town Square between grid references 469742, 832843 and 409986, 832857.

2.1.2 Brief description of the Key Components of the project

Repair and 300mm concrete reinforcement of 260M of the existing storm damaged flood defence wall involving short duration light construction works between late spring and early Autumn to avoid winter storms and neap tides. The works will involve excavating 300mm wide foundations down to bedrock and reinforcing the existing sea wall. The construction activities shall only occur during low tide. Shuttering will be used for all process using cast in place concrete which confines the concrete directly to the area of construction. The batch concrete trucks will not enter the shore area but will pour from the R313 road. A small tracked excavator will be used along the sea ward side of the flood defence wall to excavate the foundations and move forms and would only operate along the wall circa 2.5M strip along the base of the existing wall. The forms / shuttering will remain in place until the concrete goes off.

2.1.3 Distance of the project from Natura sites in potential Impact zone

The proposed project is located within the boundary of both the Mullet / Blacksod Bay Complex SAC 000470 and the Blacksod Bay / Broadhave Bay SPA 004037

2.2.1 Name(s)

Mullet / Blacksod Bay Complex SAC 000407
Blacksod Bay / Broadhave Bay SPA 004037

2.2.2 Site Code(s)

Mullet / Blacksod Bay Complex SAC 000470
Blacksod Bay / Broadhave Bay SPA 004037

2.2.3 Site Description: (Detailed ecological data can be Given in the appendices)

Mullet / Blacksod Bay Complex SAC 000470

This large coastal site, located in north-west Mayo, comprises much of the Mullet Peninsula, the sheltered waters of Blacksod Bay and the low-lying sandy coastline from Belmullet to Kinrovar. Blacksod Bay is 16 km in length and 8 km wide at the mouth. It is a shallow bay, reaching a maximum depth of 19 m and with weak tidal streams. The character

of the site is strongly influenced by the Atlantic Ocean and the exposed location of much of it results in a terrestrial landscape dominated by blown sand and largely devoid of trees. In addition to sand dune habitats, other terrestrial habitats include shallow coastal lakes, notably Cross Lough and Termoncarragh Lough, salt marshes, and some rocky shore. The underlying bedrock consists mainly of schists and gneiss. Grazing is the main terrestrial activity, while fishing and recreational activities are carried out in Blacksod Bay

Blacksod Bay / Broadhave Bay SPA 004037

Situated in the extreme north-west of Co. Mayo, this site comprises a number of bays and inlets including Sruwaddacon Bay, Moyrahan Bay, Traw-Kirtaun, Blind Harbour, Tullaghan Bay, and the various sheltered bays and inlets in Blacksod Bay, including Trawmore Bay, Feorinyeo Bay, Saleen Harbour, Elly Bay and Elly Harbour. At low tide extensive areas of intertidal sand and mudflats are exposed. These support a well-developed macro-invertebrate fauna. Seagrass (*Zostera marina*) occurs at several localities. Salt marshes, which are often on a peat substrate, fringe parts of the site and provide useful roosts for the wintering waterfowl. Sandy and shingle beaches are well represented. A small island, Inishderry, occurs in the inner part of the bay and is used by nesting terns and gulls. Also included within the site are two small lakes on the Mullet Peninsula, Cross Lough and Leam Lough. The underlying bedrock consists mainly of schists and gneiss.

2.2.4 Qualifying Interests of the Natura 2000 Site(s) (From NPWS)

Mullet / Blacksod Bay Complex SAC 000470

Mudflats and sandflats not covered by seawater at low tide [1140]

Large shallow inlets and bays [1160]

Reefs [1170]

Salicornia and other annuals colonising mud and sand [1310]

Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]

Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]

Atlantic decalcified fixed dunes (*Calluno-Ulicetea*) [2150]

Machairs (* in Ireland) [21A0]

Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]

Alkaline fens [7230]

Lutra lutra (Otter) [1355]

Blacksod Bay / Broadhave Bay SPA 004037

Great Northern Diver (*Gavia immer*) [A003]

Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]

Common Scoter (*Melanitta nigra*) [A065]
Red-breasted Merganser (*Mergus serrator*) [A069]
Ringed Plover (*Charadrius hiaticula*) [A137]
Sanderling (*Calidris alba*) [A144]
Dunlin (*Calidris alpina*) [A149]
Bar-tailed Godwit (*Limosa lapponica*) [A157]
Curlew (*Numenius arquata*) [A160]
Sandwich Tern (*Sterna sandvicensis*) [A191]
Dunlin (*Calidris alpina schinzii*) [A466]
Wetland and Waterbirds [A999]

2.2.5 Other Notable Features of the Natura 2000 Site(s) (From Natura 2000 Data Form)

Mullet / Blacksod Bay Complex SAC 000470

Quality and importance

Blacksod Bay has a good range of representative littoral and sublittoral sediment communities. The seagrass, *Zostera marina*, occurs at several localities and species richness in sublittoral sediment communities is high. There is an interesting and unusual Horse Mussel (*Modiolus modiolus*) / Purple Sea Urchin (*Paracentrotus lividus*) community. There are large oyster (*Ostrea edulis*) populations and the rare anemone, *Phellia gausapata*, is present. The machair and fixed dune habitats are particularly well developed and comprise some of the largest areas of these habitats in Ireland. A fine example of decalcified fixed dunes occurs. A fairly extensive area of alkaline fen, which is subject to a strong maritime influence, occurs at Termoncarragh Lough. Cross Lough is a good example of a naturally eutrophic system and receives large inputs of wind-borne ions from the nearby ocean. *Petalophyllum ralfsii* has recently been found at two machair areas within the site. The site supports significant populations of nine Annex I Bird Directive species, most notably internationally important populations of wintering *Gavia immer* and *Branta leucopsis*, a nationally important population of *Limosa lapponica* and a regionally important population of *Anser albifrons flavirostris*. The site is one of the only Irish breeding sites for *Phalaropus lobatus* though birds have not been recorded in recent years. A good diversity of other wintering waterfowl occur, including internationally important numbers of *Branta bernicla horta* and *Charadrius hiaticula*. The site also had important concentrations of breeding waders, especially *Calidris alpina* and *Vanellus vanellus*. *Lutra lutra* occurs throughout much of site.

Threats, pressures and activities with impacts on the site:

Threats, pressures and activities with impacts on the site:

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
M	G05.09		i
M	C01.02		b
M	C01.01.02		i
H	A04.01.01		i
M	J02.12.01		i
L	G01		i
H	A05.02		i
L	F02		b
M	E03.01		b
H	A08		i
H	A04.01.02		i
H	A02.01		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
L	X		i

Blacksod Bay / Broadhave Bay SPA 004037

Quality and importance

The site supports an excellent diversity of wintering waterfowl species and is one of the most important wetland complexes in the west. It has internationally important populations of *Gavia immer* and *Branta bernicla hrota*. The site also supports nationally important populations of *Melanitta nigra*, *Numenius arquata*, *Limosa lapponica*, *Charadrius hiaticula*, *Calidris alpina*, *Mergus serrator* and *Calidris alba*. The site provides both feeding and roosting areas for the birds though some species may also utilise areas elsewhere for feeding and/or roosting purposes. A nationally important population of *Calidris alpina* subsp. *schinzii* breeds within areas of the machair. Inishderry Island has a nationally important breeding colony of *Sterna sandvicensis*, as well as nesting *Sterna hirundo*, *Sterna paradisaea* and *Larus ridibundus*.

Threats, pressures and activities with impacts on the site:

The most important impacts and activities with high effect on the site.

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [i o b]
L	G01.02		i
L	A08		o
M	F01		i
M	F02.03.01		i
M	E01		o
M	F02.03		i

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [i o b]
M	F02.03		i
M	F01		i
M	E01		o
L	G01.02		i

2.2.6 Conservation Objectives (From NPWS)

The Detailed Conservation Objectives and Supporting Documents are available for reference on the NPWS Web site.

Conservation Objectives: Mullet / Blacksod Bay Complex SAC 000470

Version 1: 3rd August 2016

To maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: 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:

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

1140 Mudflats and sandflats not covered by seawater at low tide

1160 Large shallow inlets and bays

1170 Reefs

1310 *Salicornia* and other annuals colonising mud and sand

1355 Otter *Lutra lutra*

1395 Petalwort *Petalophyllum ralfsii*

2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)

2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) □

2150 Atlantic decalcified fixed dunes (Calluno-Ulicetea)

21A0 Machairs (* in Ireland)

3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation

7230 Alkaline fens

- *indicates a priority habitat under the Habitats Directive*

[The Detailed Conservation Objectives and Supporting Documents are available for reference on the NPWS Web site.](#)

Conservation Objectives: Blacksod Bay/Broad Haven SPA 004037.

Version 1 16th Dec 2014

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.
3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.
4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out.
5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.

Blacksod Bay/Broad Haven SPA

** indicates a priority habitat under the Habitats Directive*

004037

A003 Great Northern Diver *Gavia immer*

A046 Brent Goose *Branta bernicla hrota*

A065 Common Scoter *Melanitta nigra*

A069 Red-breasted Merganser *Mergus serrator*

A137 Ringed Plover *Charadrius hiaticula*

A144 Sanderling *Calidris alba*

A149 Dunlin *Calidris alpina alpina*

A157 Bar-tailed Godwit *Limosa lapponica*

A160 Curlew *Numenius arquata*

A191 Sandwich Tern *Sterna sandvicensis*

A466 Dunlin *Calidris alpina schinzii*

A999 Wetlands

[The Detailed Conservation Objectives and Supporting Documents are available for reference on the NPWS Web site.](#)

2.3.1 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

The following is a list of the activities proposed to be undertaken on site.

- (1) General small scale short duration light construction works involving .
- (2) Operation of light plant
- (3) Repair the existing sea wall and strengthen it by constructing a concrete 'skin' (300mm thick) on the sea side of the existing wall and raising it approx. 1m
- (4) Excavation for the foundations to solid
- (5) Reinforced concrete foundation will then be laid from solid / bedrock using shuttered cast in place methodology.
- (6) Concrete and steel reinforcement will be imported on to site for the construction of the new sea wall
- (7) A small tracked excavator will be in use for the duration of the project along the base of the existing sea wall on a strip circa 2.5M wide.
- (8) A tractor and dump trailer will be in use for the duration of the project
- (9) This Project will be governed by tides so there will be shift work involved
- (10) The project shall occur during late spring / summer / early autumn as meteorological conditions permit
- (11) No work is projected to occur from mid Autumn to Mid Spring due to potential impact from adverse weather conditions.
- (12) There is no proposal to remove material from the shore as a result of the project with the gravels / shingle replaced along the base of the new foundations.
- (13) Batch concrete trucks will pour from the R313 road.

Given the small scale short duration light construction activities to be undertaken, the nature of the proposed project and the separation distance of the actual construction from the Natura sites annexed habitats there is no potential for either significant or insignificant direct or indirect negative impacts on the Natura sites.

Notwithstanding the fore mentioned the development should observe some general standard environmental measures covering both construction and subsequent use which are not specific to the protection of the Natura sites but do take cognisance of other plans and projects e.g. WFD and are associated with good environmental management of construction sites (CEMP).

2.3.2 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 taking into account the following

- (i) Size and scale;**
- (ii) Land-take;**
- (iii) Distance from the**
- (iv) Natura 2000 site or key Features of the site;**
- (v) Resource requirements (water abstraction etc.);**
- (vi) Emissions (disposal to land, water or air);**
- (vii) Excavations requirements**
- (viii) Transportation requirements**
- (ix) Duration of construction, operation, decommissioning etc;**
- (x) Other**

The proposed project involves repairing and reinforcing the existing sea wall along the R313 road which was damaged by storms. Although located within the boundary of the SAC and the SPA there is no technical land take from either natura site due to the presence of the existing structure and nature of the proposed project. There are no key natura features of interest for either natura site located on or in close proximity to the proposed development area. The duration of the project is extremely short and occurring during the summer months to avoid the storm season and high spring / neap tides and therefore the SPA annexed avian species would not be present. The foundation require 300mm excavation along the foot of the existing sea wall with the excavated material to remain on site and be reinstated along the foot of the sea wall once the works are completed. The Concrete delivery trucks will pour from the R313 and well not enter onto the beach area. The only machinery that will enter the LS1 habitat would be a small excavator which would use the existing slip way. Once cured the concrete is an inert structure similar to that which is currently in place. There are no direct or indirect emissions to air, land, surface water or ground water associated with the proposed project. All machinery will be removed from the beach area daily post works and prior to high tides.

No Soil or sub soil is to be imported on to the site as a result of the proposed development.

Where aggregate for the purposes of fill is required it is to be sourced in a quarry that is registered under section 261/261A of the 2000 planning and development act or have a grant of planning under that act and should be sourced locally.

No maintenance of heavy plant shall occur on site with all preventative maintenance carried out prior to entry to the site.

Refuelling of heavy plant shall only occur as necessary with no hydrocarbons for such purposes stored on site.

All machinery / equipment shall be removed from the beach area at the end of each shift.

2.3.3 Describe any likely changes to the Site arising as a result of:

- (i) Reduction in habitat area;**
- (ii) Disturbance to Key species;**
- (iii) Habitat or species density;**
- (iv) Changes in key indicators of conservation value (water quality etc);**
- (v) Climate change**

The proposed development does not involve the reduction in habitat area associated with the Natura sites with no undesignated annexed habitat present with the project orientated around the repair and reinforcement of the existing sea wall. The timing of the project is such that the overwintering SPA avian species would not be present. No annexed habitat types are present or contiguous to the existing sea wall nor were any SAC feature of interest SAC species present.

There will be no disturbance to any key species associated with the Natura sites given the separation distances and the absence of suitable habitat for those species contiguous to the project area. The wintering avian species would not be present due to the timing of the project. Further to this the species for which the SPA / SAC were designated are predominantly confined to the marine section or the immediate area surrounding i.e. mud flats, inter tidal / supra/sub tidal areas and tidal flats in the winter period. Surface water quality will not be impacted as there will be no direct discharges to surface water as a result of the project with no indirect discharges to be considered.

There will be no climate change either micro or otherwise as a result of the project.

The proposed development area is currently subject to continual anthropogenic activity associated with the R313 road consequently there will be no disturbance of any annexed species above what is already experienced at this location with all potential disturbance from the project absorbed into the back ground. The only habitat that will be impacted are BL3 and LS1 .

2.3.4 Describe any likely impacts on the Natura 2000 sites as a whole in terms of:

- (i) Interference with the Key relationships that define the structure of the site.**
- (ii) Interference with key relationships that define the function of the site.**

The proposed project will not alter, interfere or impact on any of the key relationships that define either the function of or the structure of the Natura site identified given that there will be no fragmentation or disturbance of designated habitat or the species therein with the predicted impact considered neutral. Both noise and vibration from the proposed project would be absorbed into the back ground during construction with neither of consideration post completion.

2.3.5 Provide indicators of significance as a result of the identification of effects set out above in terms of:

- (i) Loss**
- (ii) Fragmentation**
- (iii) Disruption**
- (iv) Disturbance**
- (v) Change to key elements of the site (e.g. water quality etc.)**

There will be no loss, fragmentation, disruption or disturbance of the Natura sites annexed habitats or the annexed species either directly or indirectly, associated with the proposed project due to its location and timing. No negative changes to surface water quality (microbiologically, chemically, physically or quantitatively) are anticipated given that there are no direct or indirect discharges or abstraction from surface water or ground water.

The proposed works are sufficiently removed from the Natura sites annexed habitats such that there will be no impact either directly or indirectly with respect to disturbance from vibration. For example ppv of a hydraulic roller at 25M is only 1.5mms which truck on rough surfaces only produce a ppv of <2mm/s at 20M.

There will be no activities associated with the development that would give rise to significant fugitive dust which would be extremely limited and only occur during the foundation excavation phase. Any such fugitive dust would be classified as inert and harmless in the chemical context and would not contain any of the harmful compounds as described and listed in Atmospheric Emissions by T.A. Luft, (1986), section 2.3. During the short duration construction phase the noise source would be external in nature and as its dimensions would be small compared to the location, in respect to the designated

site, then as the sound energy is radiating it will spread over an area that is proportional to the square of the distance. As this is an inverse square law then the sound level will decline by 6dB for each doubling of distance and will not have a deleterious effect on the designated site either during construction or subsequent habitation, The construction noise and vibration would be absorbed into the back ground due to the presence of the R313 road. It can be projected that

noise levels within the Natura Sites would not be elevated above background either during construction. Typical values in the vicinity of the development post construction would be in the order of 45-55 dB.

2.3.6 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.

No significant impacts are predicted given the limited scale and short duration of the light construction phase of the proposed project. Post completion there are no anticipated significant or insignificant impacts either direct or indirect to consider due to the nature of the project.

Screening Conclusion

Appropriate Assessment is not required as there would be no significant impacts either directly or indirectly on the identified Natura site with respect to annexed habitat and / or annexed species either during construction or subsequent habitation.

No specific mitigation measures or compensation measures are required to ensure that there are no direct or indirect impacts on the Natura sites habitats or species.

The normal general standard environmental measures associated with good environmental management of construction sites, detailed in section 2.3.2, should be observed.

Completed by: Paul Neary B.Sc. (Hns. Env. Sc.), M.Sc (eco. Tox)

3.0 APPROPRIATE ASESMENT STAGE 1 SCREENING MATRIX
FINDING OF NO SIGNIFICANT EFFECTS MATRIX (FONSE)

In accordance with Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC

3.0.1 Planning Application Number

N/A

3.0.2 Development Type

- Repair and strengthen the existing sea wall for 260m in total along Bundola on the R-313, Belmullet
- The design proposal will be to repair the existing sea wall and strengthen it by constructing a concrete ‘skin’ (300mm thick) on the sea side of the existing wall and raising it approx. 1m
- Excavation for the foundations will be completed to solid
- Reinforced concrete foundation will then be laid from solid / bedrock
- Concrete and steel reinforcement will be imported on to site for the construction of the new sea wall
- A small tracked excavator will be in use for the duration of the project
- A tractor and dump trailer will be in use for the duration of the project
- This Project will be governed by tides so there will be shift work involved
- The project shall occur during late spring / summer / early autumn as meteorological conditions permit
- No work are projected to occur from mid Autumn to Mid Spring due to potential impact from adverse weather conditions.
- There is no proposal to remove material from the shore as a result of the project

3.0.3 Development Location

The proposed project is located in the townland of Carns with an address at Belmullet, Co. Mayo and is located along the Southern side of the R313 Road, 621M NW of Belmullet Town Square between grid references 469742, 832843 and 409986, 832857.

3.0.4 Natura 2000 site(s) within impact Zone

Mullet / Blacksod Bay Complex SAC 000470
Blacksod Bay / Broadhave Bay SPA 004037

3.0.5 Qualifying interests of Natura 2000 site(s)

Mullet / Blacksod Bay Complex SAC 000470

Mudflats and sandflats not covered by seawater at low tide [1140]

Large shallow inlets and bays [1160]

Reefs [1170]

Salicornia and other annuals colonising mud and sand [1310]

Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]

Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]

Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]

Machairs (* in Ireland) [21A0]

Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150]

Alkaline fens [7230]

Lutra lutra (Otter) [1355]

Blacksod Bay / Broadhave Bay SPA 004037

Great Northern Diver (*Gavia immer*) [A003]

Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]

Common Scoter (*Melanitta nigra*) [A065]

Red-breasted Merganser (*Mergus serrator*) [A069]

Ringed Plover (*Charadrius hiaticula*) [A137]

Sanderling (*Calidris alba*) [A144]

Dunlin (*Calidris alpina*) [A149]

Bar-tailed Godwit (*Limosa lapponica*) [A157]

Curlew (*Numenius arquata*) [A160]

Sandwich Tern (*Sterna sandvicensis*) [A191]

Dunlin (*Calidris alpina schinzii*) [A466]

Wetland and Waterbirds [A999]

3.1 Name of project or plan

Repair of the Belmullet R313 Sea Defence Wall

3.1.1 Name and Location of Natura 2000 Site

The proposed project is located within the boundary of both the Mullet / Blacksod Bay Complex SAC 000470 and the Blacksod Bay / Broadhave Bay SPA 004037

3.1.2 Description of the project or plan

Repair and 300mm concrete reinforcement of 260M of the existing storm damaged flood defence wall involving short duration light construction works between late spring and early Autumn to avoid winter storms and neap tides. The works will involve excavating 300mm wide foundations down to bedrock and reinforcing the existing sea wall. The construction activities shall only occur during low tide. Shuttering will be used for all process using cast in place concrete which confines the concrete directly to the area of construction. The batch concrete trucks will not enter the shore area but will pour from the R313 road. A small tracked excavator will be used along the sea ward side of the flood defence wall to excavate the foundations and move forms and would only operate along the wall circa 2.5M strip along the base of the existing wall. The forms / shuttering will remain in place until the concrete goes off.

3.1.3 Is the project or plan directly connected with or necessary to the management of the site (provide details)

Technically No however the do nothing approach would eventually result in erosion and potential flooding of the dwelling / farm yards to the North of the sea wall which would introduce extraneous material to the SAC / SPA which would have a deleterious negative impact on both the SAC and SPA through the erosion / undermining of the existing road and soils / sub soils.

3.1.4 Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)

There are no other projects or plans that in combination with the proposed project could impact on the Natura site. The proposed plan is project to have a neutral impact given that there are no discharges to air, soil or water associated with construction with no post construction impacts to be considered from the inert structure. Other plans and projects considered are;

Directive - Birds Directive

Directive - Habitats Directive

Directive - Drinking Waters Directive

Directive - Major Accidents and Emergencies Directive

Directive - Environmental Impact Assessment Directive

Directive - Sewage Sludge Directive

Directive - Urban Waste Water Treatment Directive

Directive - Plant Protection Products Directive

Directive - Nitrates Directive

Directive - Integrated Pollution Prevention Control Directive

Other Stipulated Measure - Cost recovery for water use

Other Stipulated Measure - Promotion of efficient and sustainable water use

Other Stipulated Measure - Protection of drinking water sources

Other Stipulated Measure - Control of abstraction and impoundment

Other Stipulated Measure - Control of point source discharges

Other Stipulated Measure - Control of diffuse source discharges

Other Stipulated Measure - Authorisation of discharges to groundwaters

Other Stipulated Measure - Control of priority substances

Other Stipulated Measure - Controls on physical modifications to surface waters

Other Stipulated Measure - Controls on other activities impacting on water status

Other Stipulated Measure - Prevention or reduction of the impact of accidental pollution incidents

On-site waste water treatment systems

Freshwater Pearl Mussel sub-basin plan

Shellfish Pollution Reduction Plan

NRBMP / WFD

4.0.1 Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 Site.

A desk top study in conjunction with on site survey (ecological, hydrological) was carried out on site. From this it was determined that the project will not have a significant effect on the Natura sites either directly or indirectly, alone or in combination with other projects.

4.0.2 Explain why these effects are not considered significant.

The effects are not considered significant as all potential indirect effects are negated by virtue of the nature of the project even though the area of construction is located in the SAC / SPA. The construction phase of the project is of extremely short duration. None of the species for which the Natura site has being designated are present on the project area with the timing of the project dictating that the SPA avian species would not be present. The effects are not considered significant as the project is orientated around the repair of the existing sea wall. The proposed construction

phase of the project is of extremely short duration outside of the avian wintering period. None of the species for which the Natura sites have being designated are present on site nor would they populate the site given the lack of suitable habitat, roosts, foraging opportunities and the existing level of anthropogenic activity from the adjacent R313 road. There is no undesignated annexed habitat present on the proposed development site. The species for which the Natura site was designated would not expand their range to encompass the development site as they are predominantly marine or confined to the shore lines / sand / mud flats. All potential impacts can be accurately predicted from published data.

4.0.3 List of agencies consulted: provide contact name and telephone or email address.

As part of the process MCC may request input from the NPWS DAU therefore to avoid duplication consultation with NPWS will be through that process.

4.0.4 Response to consultation.

N/A

5.0 Data collected to carry out the assessment.

Who carried out the Assessment?	Source of Data	Level of assessment completed.	Where can the full results of the assessment be accessed and viewed.
<p>Paul Neary Environmental Consultants</p>	<p>National Parks and Wild Life</p> <p>Geological Survey of Ireland</p> <p>Environmental Potection Agency</p> <p>Water frame Work Directive (water matters web site)</p> <p>NRBMP</p> <p>National Bio diversity Centre</p> <p>Heritage Council</p>	<p>Consultation Site Synopsis Birds and Habitats Regulations 49 & 50. Threat Response Plans for Lutra Lutra Threat Response Plans for Vesper bats All Ireland Species action plan Bats All Ireland Species action Plan – Red Squirrel All Ireland Species Action Plan – Irish Lady’s Tresses, pollan, hare, corncrake. National Biodiversity Plan The Status of EU protected habitats and species in Ireland.</p> <p>Bedrock Data. Aquifer Vulnerability. Soil and Sub soils Data. Aquifer potential. Source protection, karst and ground water well data.</p> <p>Water Quality Data. Air Quality Data.</p> <p>Status and objectives for ground water and surface water</p> <p>Status and objectives for ground water and surface water</p> <p>Data on species in area</p> <p>Data on species in area</p>	<p>Paul Neary Stonehall Foxford Co. Mayo</p>

	<p>Department of the Environment</p> <p>Department of Agriculture</p> <p>Inland Fisheries</p> <p>Freshwater Life – R. Fitter R. Manuel</p> <p>Biology of Fresh Waters -PS Maitland</p> <p>Dept. of the Environment, 1994</p> <p>Planning Policy</p> <p>Guidance: Nature Conservation</p> <p>Collins Field Guide to Freshwater Life, R. Fitter, R. Manuel.</p> <p>Domino Guide to Wild Flowers of Britain and Ireland, Marjorie Blamey, Richard Fitter, Alastar Fitter.</p> <p>Collins Nature Guides to Wild Flowers of Britain and Europe, W. Lippert & D. Podlech.</p> <p>Waterfowl Ecology M Owen & J M Black</p> <p>Kingfisher Concise Field Guide to Animal & Plants of Britain & Europe, Michael Chinery</p>	<p>Circular NPW 1/10 & PSSP 2/10</p> <p>Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.</p> <p>Environmental Plan – Nutrient management plans.</p> <p>Wild Salmon Management</p>	
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The Status of EU Protected Habitats and Species in Ireland, NPWS, Department of the Environment, Heritage and Local Government 2008.

European Commission. 2007b. Interpretation manual of European Union habitats. EUR27. European Commission, DG Environment.

EPA. 2002. Guidelines on information to be contained in Environmental Impact Statements. EPA, Wexford.

Biology of Fresh Waters, 2nd edition, P S Maitland.

Treweek, J. 1999 Ecological Impact Assessment Blackwell Science Ltd. Oxford

EPA. 2003. Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). EPA, Wexford.

National Parks and Wildlife Service. 2008. The Status of EU Protected Habitats and Species in Ireland. Conservation status in

Ireland of habitats and species listed in the European Council directive on the conservation of habitats, flora and fauna 92/43/EEC. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

**NPWS 2009
Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities
Revised February 2010
Department of Environment, Heritage and Local Government**

Southall, B.L., Bowles, A.E. Ellison, W.T., Finneran, J.J. Gentry, R.L. Greene, C.R., Kastak, D., Ketten,

6.0 Overall Conclusions:

Appropriate Assessment is not required as there would be no significant impacts either directly or indirectly on the identified Natura sites with respect to their annexed habitats and / or annexed species either during construction or subsequent to construction.

No specific mitigation measures or compensation measures are required to ensure that there are no significant direct or indirect impacts on the Natura sites habitats or species.

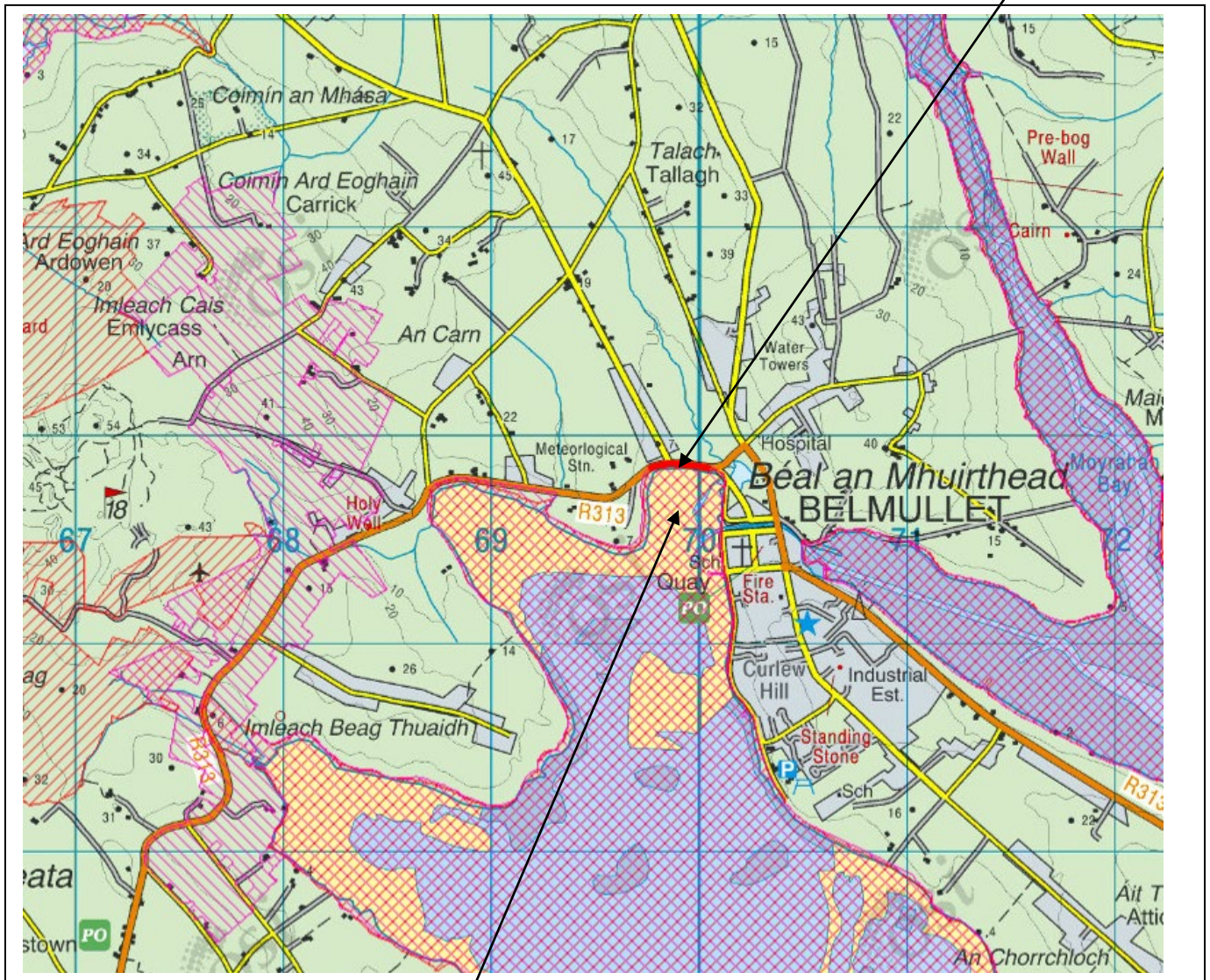
The normal general standard environmental measures associated with good environmental management of construction sites, detailed in section 2.3.2, should be observed and are also cognisant of other plans and projects. These should not be interpreted, considered or misconstrued as mitigation measures but are associated with good environmental management of construction sites.

Appendices: Attach Relevant Ecological data as required to support findings of stage 1 screening matrix.

APPENDIX 1

MAP: 1 Development Location

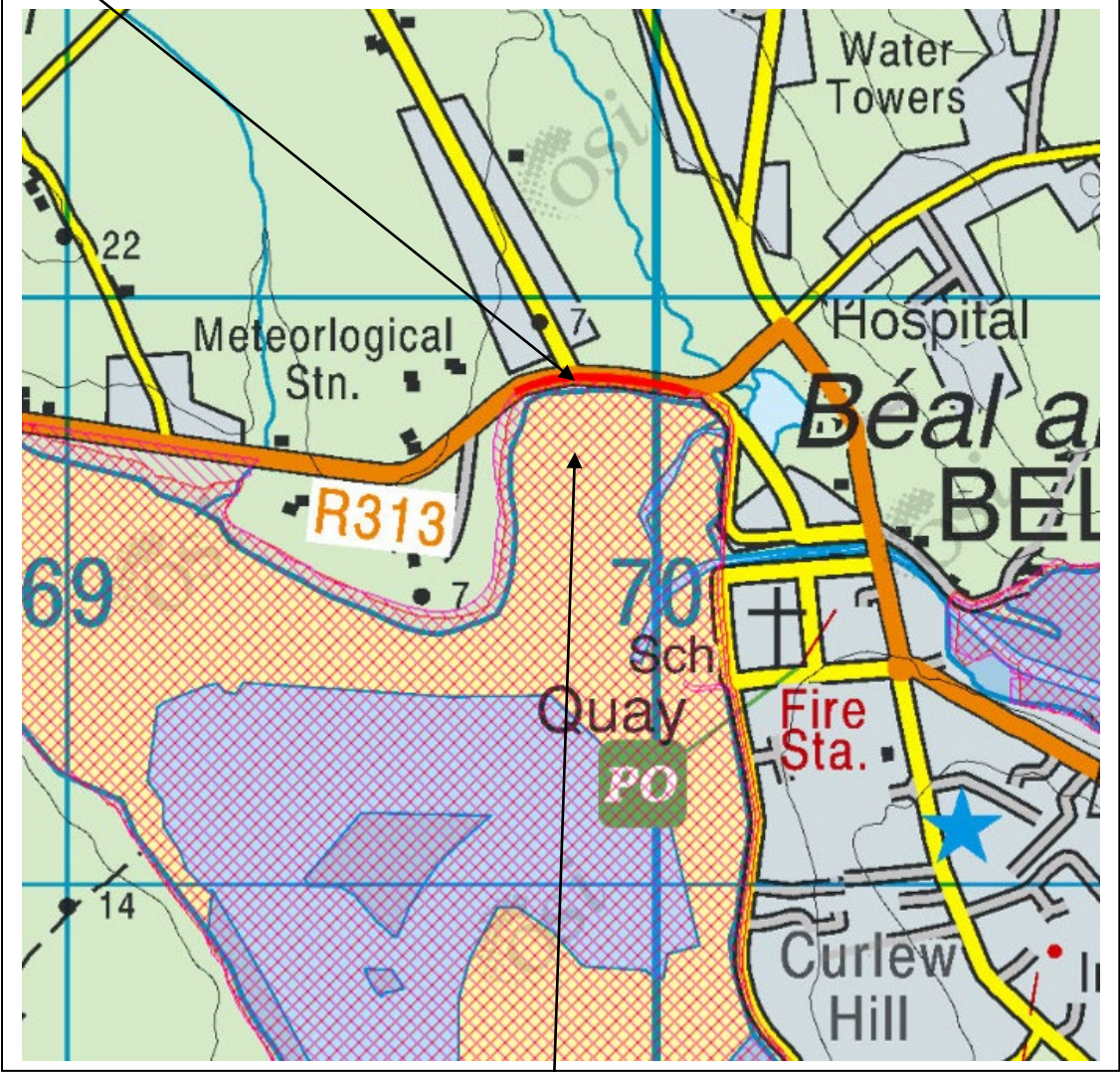
Location of Sea Wall



Mullet / Blacksod Bay Complex SAC 000470

Blacksod Bay / Broadhave Bay SPA 004037

Location of Existing Sea Wall



Mullet / Blacksod Bay Complex SAC 000470

Blacksod Bay / Broadhave Bay SPA 004037

APPENDIX 2

**ECOLOGICAL SURVEY
FOR THE
PROPOSED REPAIR OF THE EXISTING FLOOD DEFENCE
WALL
AT
CARN, BELMULLET CO. MAYO**



**Client: Mayo County Council
The Mall
Castlebar
Co. Mayo**

**Paul Neary B.Sc. (Hns. Env. Sc.) M.Sc. (Eco. Tox)
Environmental Consultant
Stonehall
Foxford
Co. Mayo
Tel: 00353 87 2352811
Email: pnearyfoxford@gmail.com**

1.1 SITE DESCRIPTION AND DESK TOP STUDY

1.2 PLOT HISTORY AND CURRENT LAND USE

1.3 ECOLOGICAL SURVEY

1.3.1 Ecological survey

1.3.2 Botany

1.3.3 Fauna

1.3.4 Avian Species

1.3.5 Amphibians

1.3.6 Invertebrates

Appendix 1: Habitat Map

1.1 Site Description and desk top study

The site is located in the townland of Carns with an address at Belmullet, Ballina, Co. Mayo and is located along the Southern side of the R313 Road, 621M NW of Belmullet Town Square between grid references 469742, 832843 and 409986, 832857. The proposed project involves the repair and 300mm concrete reinforcement of 260M of the existing storm damaged flood defence wall involving short duration light construction works between late spring and early Autumn. The works will involve excavating 300mm wide foundations down to bedrock and reinforcing the existing sea wall. The construction activities shall only occur during low tide outside of the Winter period.

The site is located in a catchment which includes the area drained by all streams entering tidal water in Blacksod and Broadhaven Bays and between Corraun Point and Benwee Head, Co. Mayo, draining a total area of 1,302km². The largest urban centre in the catchment is Belmullet. The other main urban centers in this catchment are Bangor and Keel. The total population of the catchment is approximately 12,549 with a population density of 10 people per km². The catchment contains many upland areas including the north Mayo coast and the northern part of the Nephin Beg range. The catchment is underlain mostly by metamorphic rocks with sandstones and shales underlying the flat expanses to the east of Bangor. This catchment includes part of mainland County Mayo, the Belmullet Peninsula and Achill Island. Achill is drained by a number of small streams draining the slopes of the four mountains that dominate the Island, Croaghan, Slievemore, Minaun and Knockmore. The largest river system on the island comprises the Dookinelly, Keel Rivers and Keel Lough drains the central basin of the Island. The island is separated from the mainland by Achill Sound. The Belmullet Peninsula is separated from Achill and the mainland by Blacksod Bay to the south and from the mainland by Broad Haven Bay to the north. The sandy soil of Belmullet is drained by a series of small streams and rivers, the largest of which is the Clooneen River, which flows into Broad Haven Bay. More specifically the site is located in the Glencastle – sc-010 sub catchment.

The underlying geology is PQGS (Precambrian Quartzites, gneiss and schists). The sub soils are not classified by the GSI due to the marine nature of the proposed project area. The site is located within two Natura sites, the Blacksod Bay SAC 000472 and the Blacksod Bay / Broadhave Bay SPA 004037 however despite this there is no land take from either as the project is the the repair of the existing storm damaged sea wall.. The on site habitat is described as Shingle and gravel shore LS1 and BL3. The surrounding land use and habitat types also consists of BL3 – buildings and artificial surfaces and improved agricultural grassland to the North and Shingle and gravel shore LS1 directly to the South which are subject to a degree of anthropogenic activity dominated by the R313 road and recreational use of the LS1 habitat (walking, dog walking etc.).

The site is not located in an “Area for Action” with respect to plans and projects for the catchment in which it is located. There is no existing qualitative or quantitative data for ground water in the immediate area of the proposed development which would be anticipated given its PI classification and location, none the less the NRBMP / WFD has classified the Belmullet ground water body IE_WE_G0057aquifer as Good with the Risk under review. The water in Belmullet bay is described by the WFD / NRPMP as not at risk with the status not assigned. The air quality in the area is described as very good (zone D) which translates to the following, SO₂ 0-49µgM⁻³ (1hr average), NO₂ 0-36 µgM⁻³ (1hr average), O₃ 0-39 µgM⁻³ (1hr average) and PM₁₀ 0-19 µgM⁻³ (24hr average).

A number of NPWS publications have been consulted. In addition to the normal documentation the following are notable publications that are significant enough to warrant mention at this point, (1) Mullet Blacksod Bay Complex

SAC (000470) Conservation objectives supporting document - Marine habitats [Version 1], (2) Mullet Blacksod Bay Complex SAC (000470) Conservation objectives supporting document - Coastal habitats [Version 1], (3) Saltmarsh Monitoring Project 2007-2008. Volume 4, (4) Surveys of sensitive sublittoral benthic communities in Mullet/Blacksod Bay Complex SAC, Rutland Island and Sound SAC & Mulroy Bay SAC and (5) Coastal Monitoring Project 2004-2006 .

1.2 Plot History and Current Land Use:

The site is currently the location of an existing sea wall.

1.3 ECOLOGICAL SURVEY

(see maps)

1.1 Ecological survey :

The habitat on site is classified as;

- (1) LS1
- (2) BL3

1.3.2 Botany

The ecological survey indicated that the site can be classified as LS1 which is only inundated by sea water during high / neap tides or during storms. This has resulted in the area being relatively devoid of vegetation with no typical foreshore species present due to the lack of regular tidal inundation.

1.3.3 Fauna.

There was no direct or indirect evidence of *Leptis timidus*, *Martes martes*, *Mustela erminea*, *Sciurus vulgaris*, *Mustela lutreola*, *Orctyolagus cuniculus* or *Erinaceus europaeus* on site nor would any be anticipated. The reclusive *Lutra lutra* is not recorded at this specific location and is generally only found within 80M of suitable habitat. The presence of the existing road and the recreational use of this particular location dictates that the species would not utilise it.. *Sciurus vulgaris*, *Mustela musculus*, *Martes martes* and *Orctyolagus cuniculus* would not be anticipated given the absence of suitable habitat.. No bat species were detected with an absence of foraging or roosting opportunities on the exposed Atlantic shore line.

1.3.4 Avian species.

The normal ubiquitous species were observed with no annexed avian species recorded in the location of the proposed development nor would any be anticipated given its terrestrial BL3 classification and disturbance from the adjacent R313 road.. The impact of the invasive feral mink populations on ground nesting / roosting birds has yet to be determined.

The development site is located within the SPA /SAC boundary and therefore and potential impacts on the annexed avian species for which the SPA was designated must be considered. The features of interest for the SPA list the following species; the majority of which are wintering with no breeding occurring.

Great Northern Diver (*Gavia immer*) [A003]

Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]

Common Scoter (*Melanitta nigra*) [A065]

Red-breasted Merganser (*Mergus serrator*) [A069]

Ringed Plover (*Charadrius hiaticula*) [A137]

Sanderling (*Calidris alba*) [A144]

Dunlin (*Calidris alpina*) [A149]

Bar-tailed Godwit (*Limosa lapponica*) [A157]

Curlew (*Numenius arquata*) [A160]

Sandwich Tern (*Sterna sandvicensis*) [A191]

Dunlin (*Calidris alpina schinzii*) [A466]

Wetland and Waterbirds [A999]

The proposed development is located within Broadhaven Bay Bay SPA 277Ha Seafield Bay sub site OD477. Of the species for which the SPA was listed only Lightbellied Brent Goose, Red Bresred Mergenser, Bartailed Godwit, Ringed Plover, Sanderling, Dunlin and Curlew were recorded in the OD477 sub site (see tables and maps overleaf). Of these 7 species 6 are wintering with only sanderling roosting. They are all non terrestrial i.e predominantly intertidal and sub tidal with a small element of supratidal behavior. The population trends are as follows

Species	Population Trend %
Light Bellied Brent Goose	+152.5
Redfbrested Mergenser	+23.5
Bartailed Godwit	+5.3
Ringed Plover	+31.3
Sanderling	+235
Dunlin	-64.9
Curlew	-2.9

The only species that roosts in the SPA are Sanderlings which shows strong population growth. The remaining species are all wintering. Both Dunlin and Curlew display negative population trends which can be stochastically associated with potential negative impacts on their breeding grounds. That is outside of the scope of this report and indeed the control or management of the SPA.

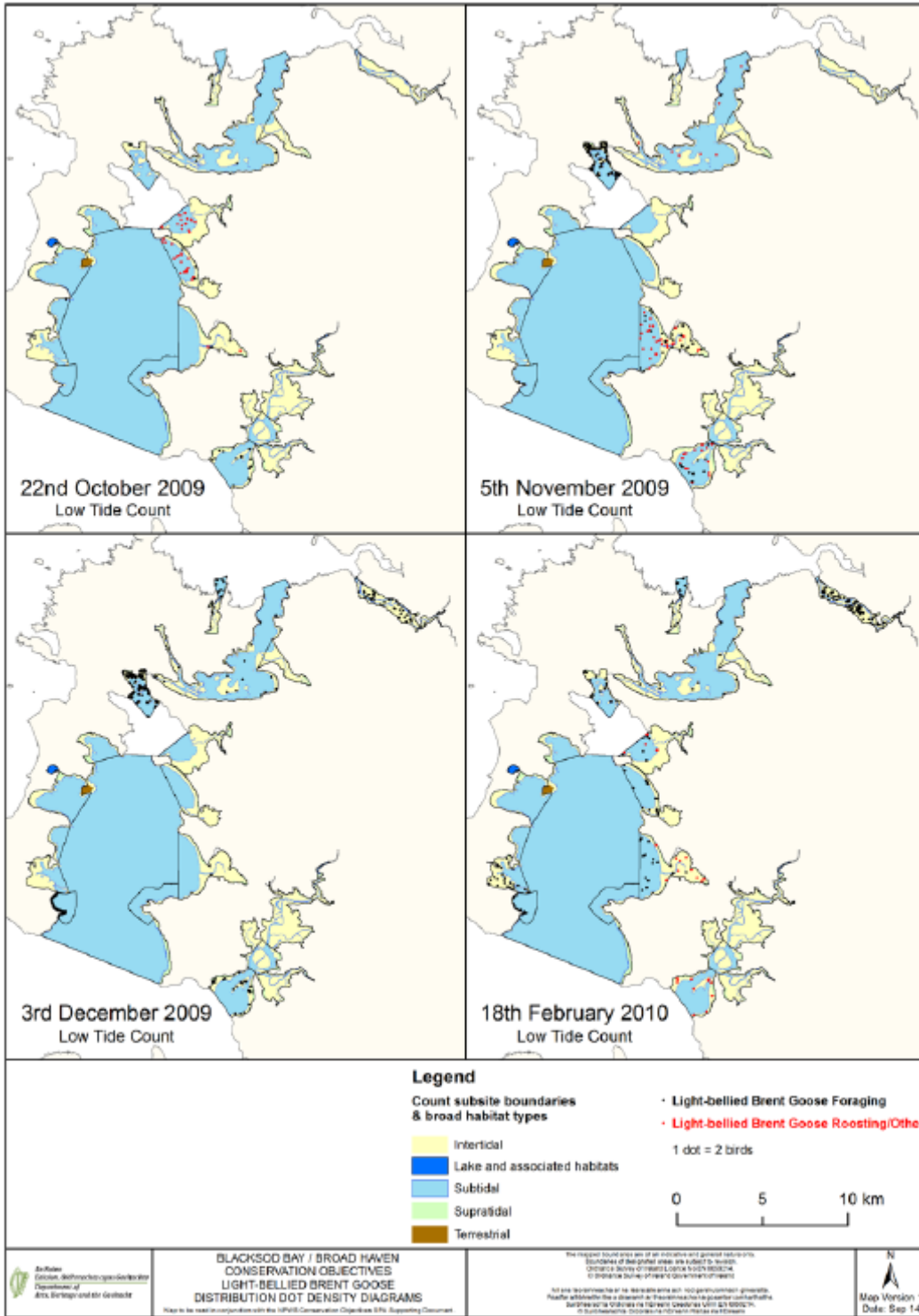
Blacksod Bay / Broadhaven Subsite assessment – total numbers during LT surveys (across all behaviours and habitats) (L Low, M Moderate; H High V Very high)

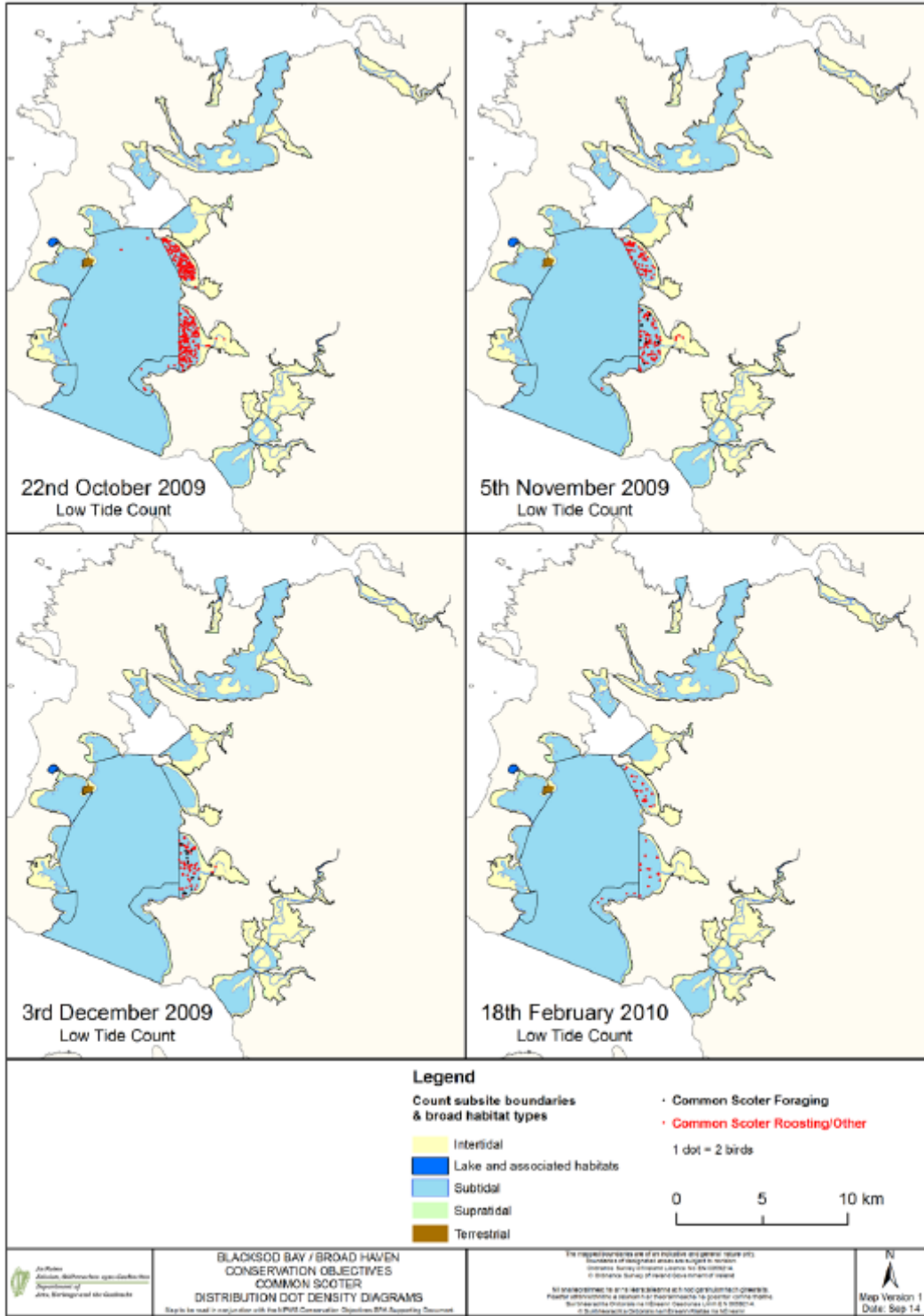
Subsite	PB	CX	RM	ND	RP	SS	DN	BA	CU
0D055	L		M		L		M		L
0D410					V		H		M
0D414	M			H	H	V	M		L
0D415	V		M	H	L	H	L		L
0D438	M		V	V	H		V	H	V
0D439		H		M					
0D459	L		M		L	L		M	H
0D460			M		H		H	H	M
0D468					V	V	L	L	H
0D469	H			M		L			L
0D474				M	V	L	H	M	V
0D475	V						M	M	V
0D477	V		H	L	M		H	M	H
0D478			H	H	M	M	L	H	M
0D479			H	H	H	M	M	H	M
0D480	M		H	M	H	V	M	H	H
0D489			M		H	L	V	H	H
0D490	H	V	M	V	M	H	L	M	H
0D491					M	M	M	L	M
0D493	H		V		H	M	V	V	V
0D494	V	V	L	H	L	L	L		L
0D495	M		L		H	V	H	L	H
0D901		H		H	L			L	M

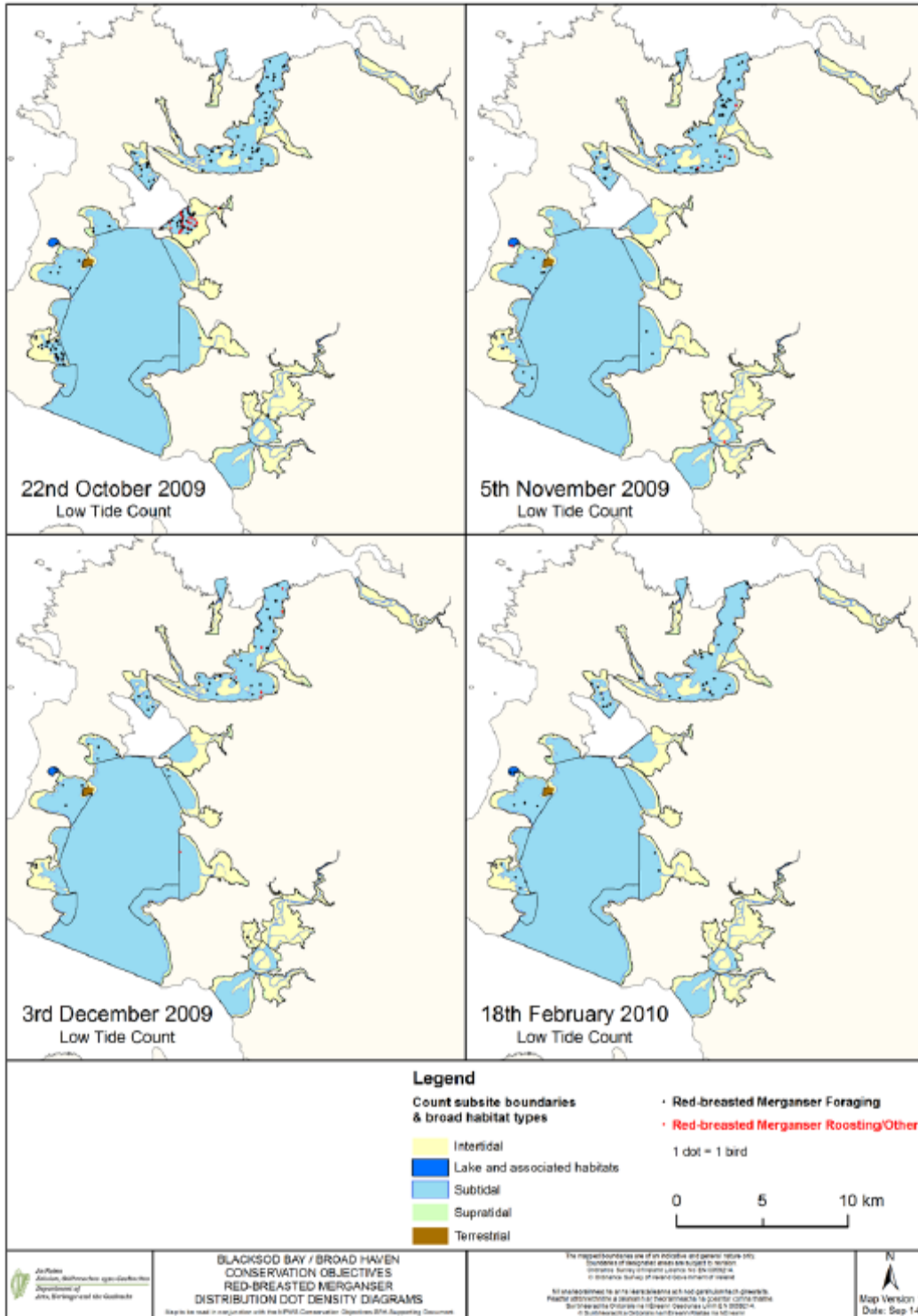
Sub site Locations and Location of Proposed Development

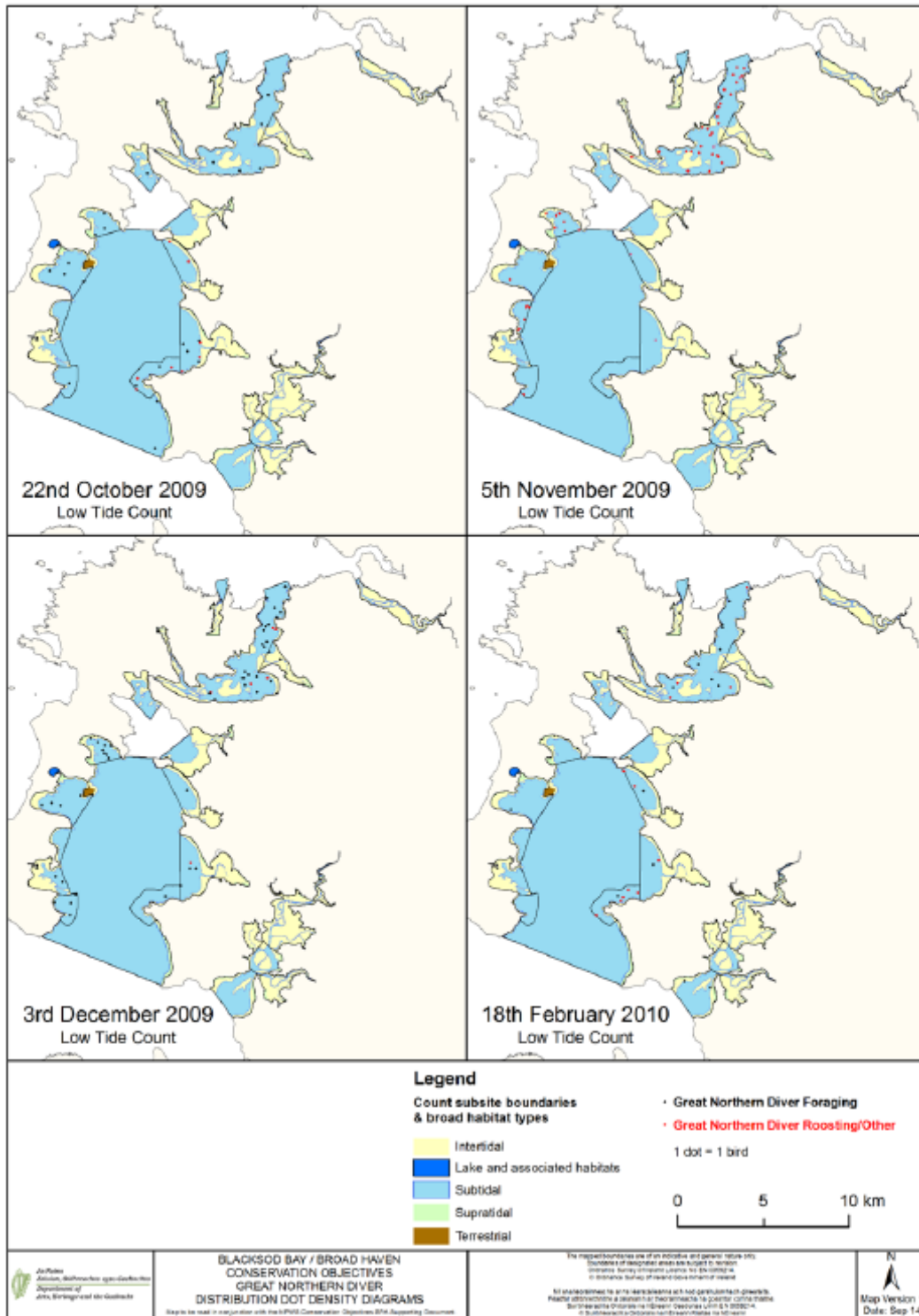


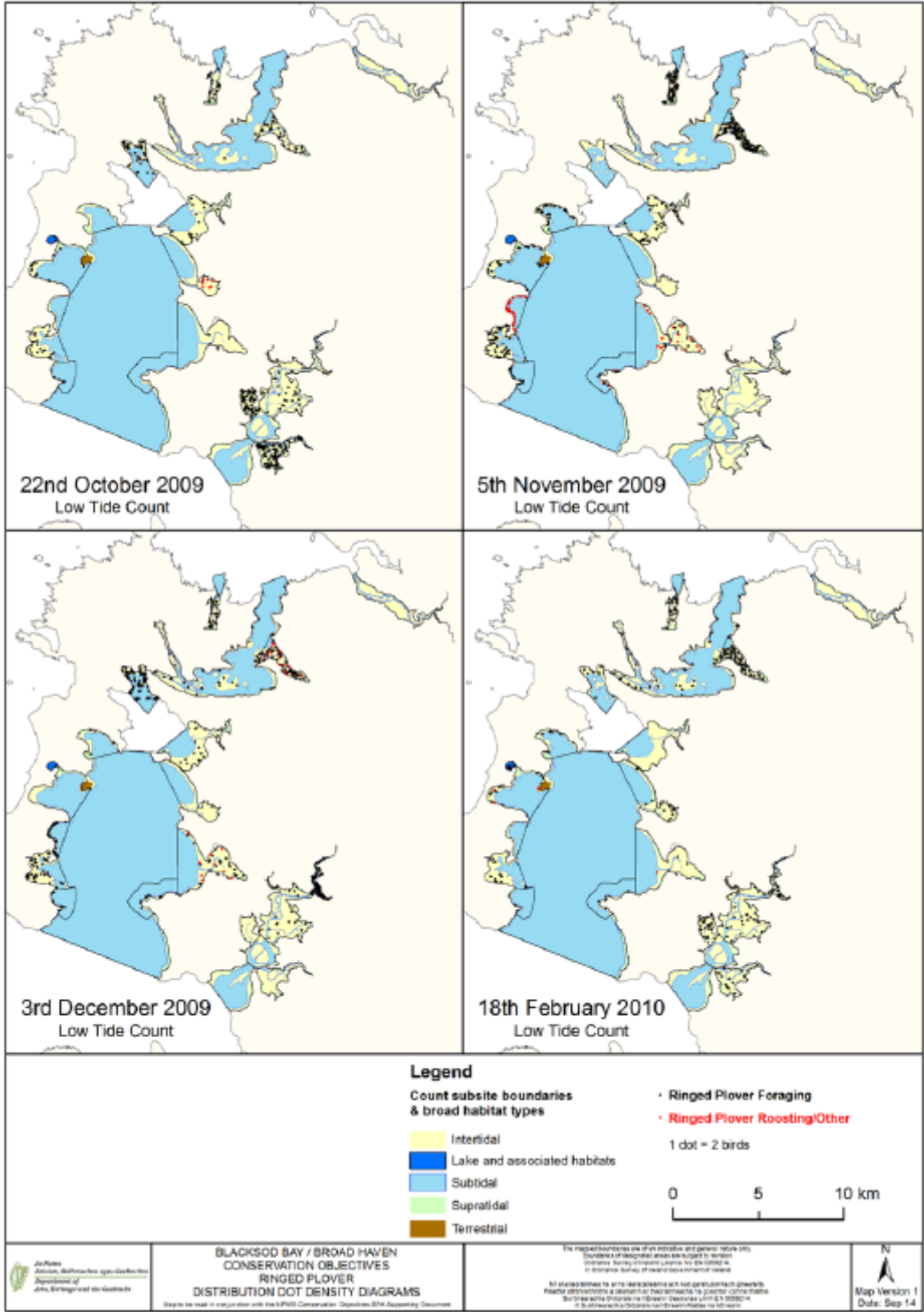
Location of Proposed Project













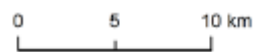
Legend

Count subsite boundaries
& broad habitat types

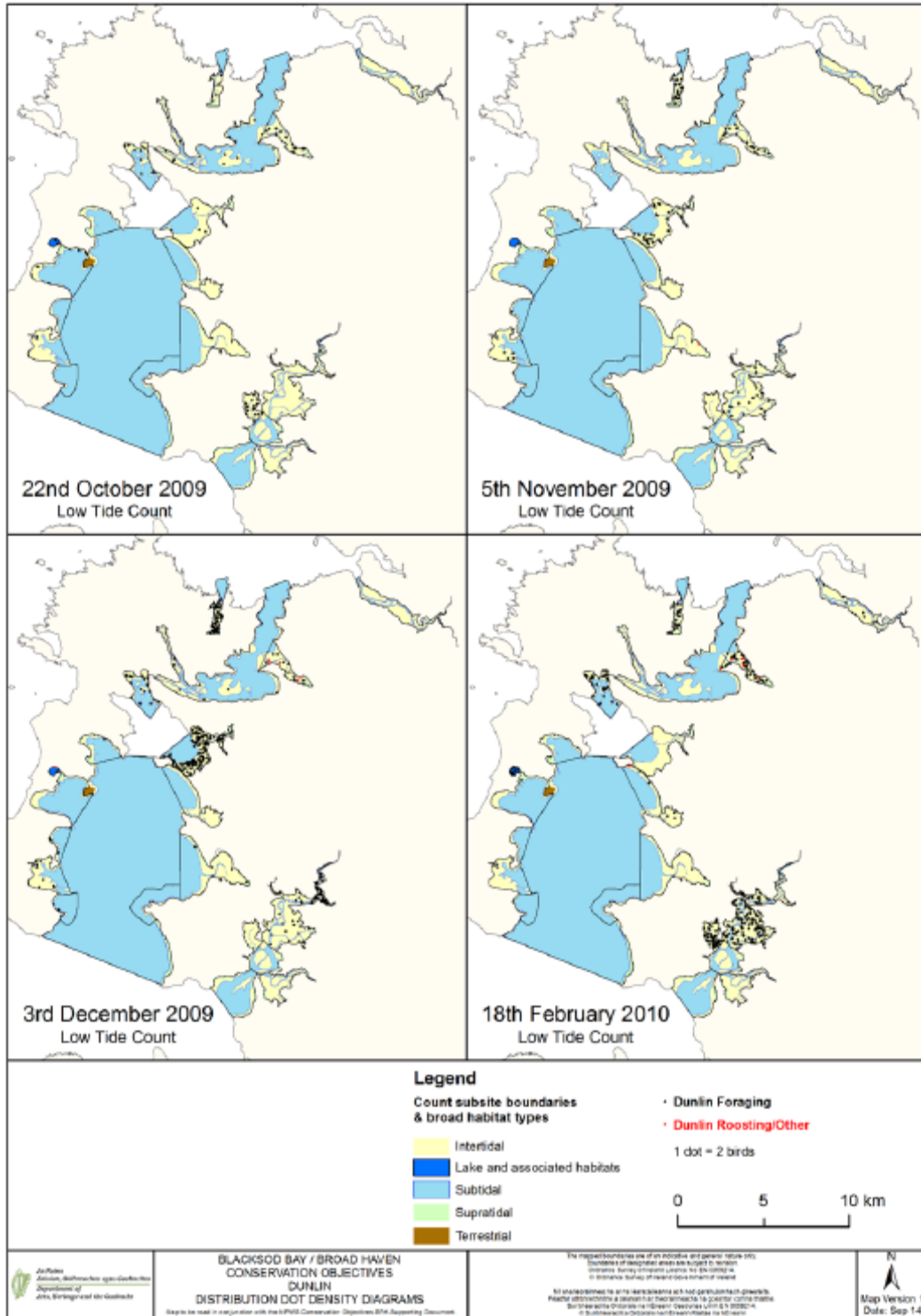
- Intertidal
- Lake and associated habitats
- Subtidal
- Supratidal
- Terrestrial

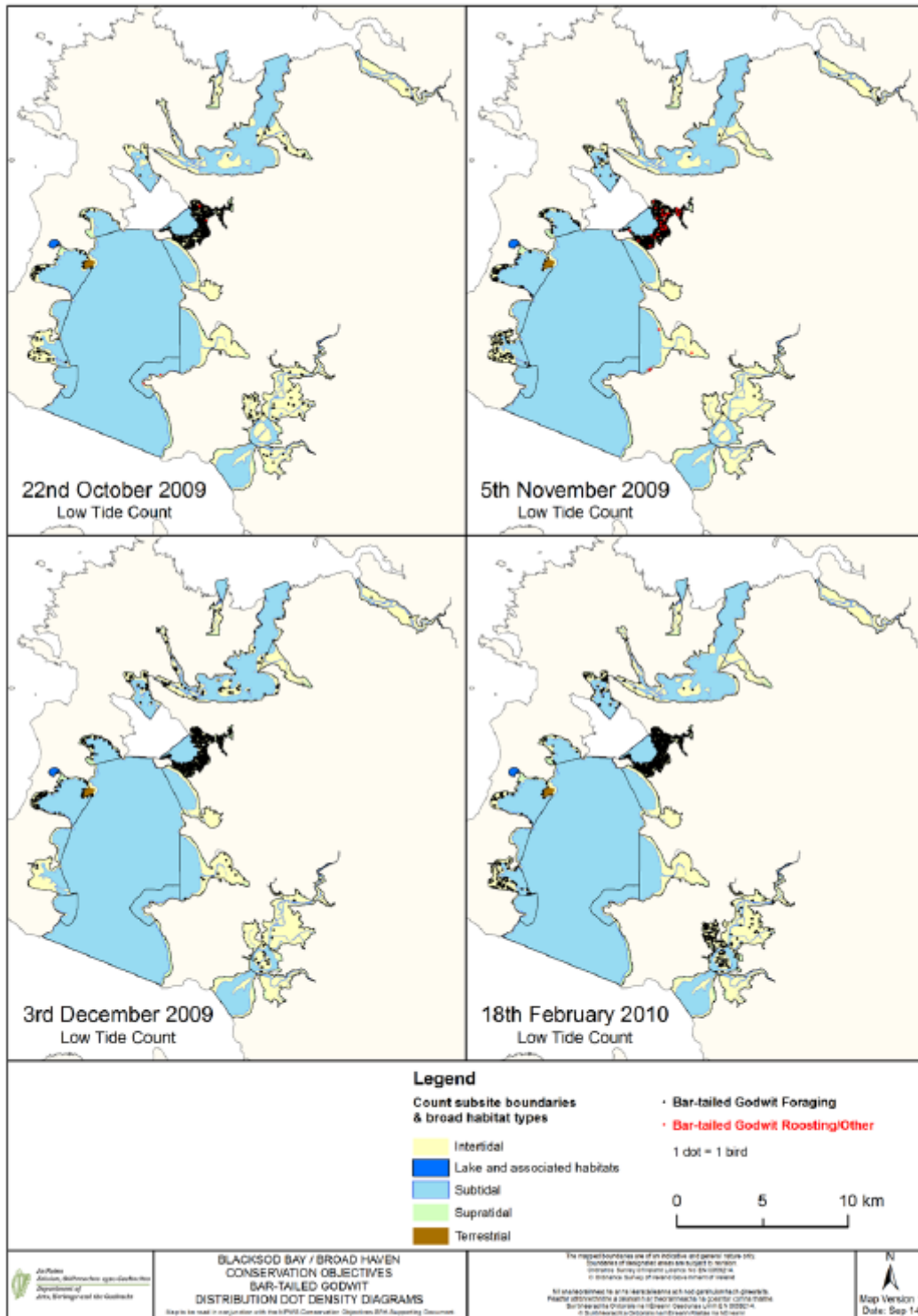
- Sanderling Feeding
- Sanderling Roosting/Other

1 dot = 1 bird



	<p>BLACKSOD BAY / BROAD HAVEN CONSERVATION OBJECTIVES SANDERLING DISTRIBUTION DOT DENSITY DIAGRAMS</p> <p><small>Map to be used in conjunction with the Wildlife Conservation (Designation) Bill Supporting Document</small></p>	<p>The map boundaries are of an indicative and general nature only. Boundaries of designated areas are subject to further consultation. Boundary changes are subject to the planning or otherwise of any of the relevant authorities of Ireland.</p> <p>All measurements are in metres unless stated otherwise. All measurements are rounded to the nearest whole number. All measurements are in metres unless stated otherwise. All measurements are rounded to the nearest whole number.</p> <p>© 2009 BlackSod Bay / Broad Haven Conservation Unit. All rights reserved.</p>	<p>N</p>  <p>Map Version 1 Date: Sep 14</p>
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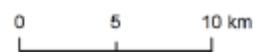
Legend

Count subsite boundaries
& broad habitat types

- Intertidal
- Lake and associated habitats
- Subtidal
- Supratidal
- Terrestrial

- Curlew Foraging
- Curlew Roosting/Other

1 dot = 1 bird



Disturbance is the key negative impact on the annexed avian species within the SPA boundary. NPWS has recorded the most important activities that result in disturbance and these are displayed on in the table below.

Disturbance Assessment Summary Table

Number of activities recorded during field surveys (2011/12 waterbird survey programme) observed to cause disturbance to waterbirds. The calculated peak disturbance score is shown. Scores 0 – 3 = Low Scores 4 – 6 = Moderate Scores 7 – 9 = High. Grey shading = no activity recorded

Subsite Code	Subsite Name	Number of activities/events	Peak Disturbance Score	Activity Responsible
0D055	Leam Lough			
0D410	Tullaghaunnashammer: Blacksod			
0D414	Feorinyeeo Bay: Blacksod	2	7	Walking (incl. with dogs)
0D415	Blacksod Point	2	6	Powered watercraft Motorised vehicles
0D438	Broad Haven Bay	3	6	Motorised vehicles
0D439	Blacksod Bay (sea)			
0D459	Birranbaun: Blacksod			
0D460	Trawnanaskil: Blacksod			
0D468	Trawboy – Cregganroe: Blacksod			
0D469	Doona Strand: Blacksod			
0D474	Trawkirtan: Broad Haven	1	4	Other agricultural activities
0D475	Sruwaddacon Bay: Broad Haven			
0D477	Seafield Bay: Blacksod			
0D478	Saleen Harbour: Blacksod	4	6	Motorised vehicles
0D479	Elly Bay: Blacksod	1	3	Hand-gathering molluscs
0D480	Aghleam Bay: Blacksod	2	4	Walking (incl. with dogs) Motorised vehicles
0D489	Tullaghan Bay: Blacksod			
0D490	Doolough Bay & Strand: Blacksod	1	3	Hand-gathering molluscs
0D491	Corraun Bay: Blacksod			
0D493	Trawmore Bay: Blacksod	2	4	Motorised vehicles
0D494	Claggan Strand: Blacksod	3	6	Walking (incl. with dogs)
0D495	Blind Harbour	2	6	Walking (incl. with dogs) Motorised vehicles
0D901	Kinfanalta Point: Blacksod			

The proposed project would not increase those disturbance activities that have been identified by NPWS as being significant, however consideration should be given to the timing of the light construction phases of the project to ensure no disturbance i.e. all such activities to take place outside of the wintering period. The nature of the project dictates that the construction phase of the project would naturally be outside of the overwintering period with no potential for disturbance post construction.. The other Avian species also referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC but not listed as features of interest are also predominantly wintering populations but not breeding at this location.

1.3.5 Amphibians.

No Amphibian species were noted.

1.3.6 Invertebrates.

No invertebrate species of note were recorded on the site.

Paul Neary B.Sc., M.Sc.

******PL321 (code 00805)

****** These codes indicate that Paul Neary is an approved environmentalist by NPWS / Duchas / Dept. of Agriculture for the carrying out of ecological assessments on NHA's, SAC's, SPA's, pNHA's and National Parks and the creation of management plans and frame work plans on the afore mentioned.

HABITAT MAP



Shingle & Gravel Shore (LS1)



Dense Bracken (HD1)

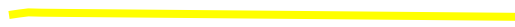


Improved Agricultural Grassland (GA1)

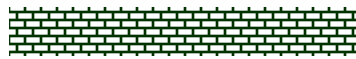
Drainage Ditch (FW4)



Hedgerow (WL1)



Buildings and other artificial surfaces (BL3)





APPENDIX 3

SITE SYNOPSIS Version date: 26.08.2013

Site Name: Mullet/Blacksod Bay Complex SAC

Site Code: 000470

This large coastal site, located in north-west Co. Mayo, comprises much of the Mullet Peninsula, the sheltered waters of Blacksod Bay and the low-lying sandy coastline from Belmullet to Kinrovar. The character of the site is strongly influenced by the Atlantic Ocean and the exposed location of much of the site results in a terrestrial landscape dominated by blown sand and largely devoid of trees. The underlying bedrock is principally metamorphic schist and gneiss. The site displays an excellent range of coastal and marine habitats. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats

[1160] Large Shallow Inlets and Bays

[1170] Reefs

[1310] Salicornia Mud

[2120] Marram Dunes (White Dunes)

[2130] Fixed Dunes (Grey Dunes)*

[2150] Decalcified Dune Heath*

[21A0] Machairs*

[3150] Natural Eutrophic Lakes

[7230] Alkaline Fens

[1355] Otter (*Lutra lutra*)

[1395] Petalwort (*Petalophyllum ralfsii*)

Blacksod Bay is 16 km in length and 8 km wide at the mouth. It is a shallow bay, reaching a maximum depth of 19 m and with weak tidal streams. The bay has a good range of representative littoral and sublittoral sediment communities, and also infralittoral reefs. The littoral sediments of the bay consist of areas that are moderately exposed to, or very sheltered from, wave action. Characteristically, exposed to moderately exposed sediment communities are composed of coarse to fine sand and have a polychaete fauna with crustaceans. Species richness increases as conditions become more sheltered. Talitrid amphipods occur in decomposing seaweed on the strand line. Polychaete worms (*Arenicola marina*), bivalves (*Cerastoderma edule*) and crustaceans such as *Urothoe brevicornis*, *Ampelisca brevicornis* and *Bathyporeia pilosa*, are common in the middle shore. The sublittoral sediment towards the entrance of the bay is comprised of rather barren medium sand, with the occasional bivalve molluscs *Glycymeris glycymeris* and *Ensis* spp. Much of the sediment in the centre of the bay is composed of firm, muddy sand with the brittle stars *Amphiura* spp. and the razor shells *Ensis* spp. Towards the head of the bay the sediment is composed of muddy sand with *Turritella communis*, *Amphiura brachiata* and *Philine aperta*, and soft sandy mud with *Anthopleura balli* and decaying algae. In some areas Eelgrass (*Zostera marina*) and the reef-forming polychaete *Serpula vermiculata* are frequent. Notable species included Oyster (*Ostrea edulis*), which occurs at head of the bay, and the sea anemone *Phellia gausapata*, which is present in the middle of the bay.

Infralittoral reefs within Blacksod Bay are sheltered or very sheltered from wave action and subject to weak

or moderate tidal streams. In sheltered areas that are composed of bedrock, occasional *Saccorhiza polyschides* overlies a rich assemblage of red algal species such as *Dudresnaya verticillata*, *Heterosiphonia plumosa* and *Chondria tenuissima*. Very sheltered bedrock reef communities are also characterized by foliose red algae. The sea anemone, *Metridium senile*, is abundant on the tops of the reefs and *Antedon bifida* on the steeper surfaces. Much of the infralittoral reef in Blacksod Bay is composed of boulders, cobbles and pebbles. The red algae in these areas are sand-tolerant species such as *Chondria dasphylla* and *Gracilaria gracilis*. Characterizing faunal species are the anthozoans *Metridium senile* and *Acyonium digitatum*, the hydroid *Nemertesia ramosa* and the sponge *Dysidea fragilis*. The purple sea urchin, *Paracentrotus lividus*, occurs at two sites at the head of the bay. Large areas of machair, a priority habitat on Annex I of the E.U. Habitats Directive, are found within this extensive coastal site. On the Mullet peninsula the habitat is best developed to the west of Termoncarragh lake, Tonamace/Macecrump and to the west of Cross Lough. On the eastern shores of Blacksod Bay, extensive areas of machair occur at Doolough, Srah and Dooyork. The vegetation of the habitat is dominated by plant species of dry dune grassland which include Red Fescue (*Festuca rubra*), Wild Thyme (*Thymus praecox*), Daisy (*Bellis perennis*), Ribwort Plantain (*Plantago lanceolata*), Selfheal (*Prunella vulgaris*), Sand Sedge (*Carex arenaria*) and Lady's Bedstraw (*Galium verum*). The main moss species are *Brachythecium albicans*, *Calliergonella cuspidata* and *Bryum* species. In damper areas of machair the vegetation is transitional to fen and contains, in addition to the typical dry machair species, such species as Fairy Flax (*Linum catharticum*), Cuckooflower (*Cardamine pratensis*) and Grass-of-parnassus (*Parnassia palustris*).

Fixed dunes with herbaceous vegetation, another Annex I priority habitat, have an extensive distribution throughout the site and are particularly well developed in the middle and south of the Mullet peninsula, e.g. at Emlybeg, Newtown and Agleam. Areas of fixed dunes are typically at their highest approximately 500 m back from the sea, and at Emlybeg and Newtown they attain a height of approximately 33 m. The fixed dune areas present within the site often form a complex mosaic with other dune habitats such as shifting dunes and machair. Frequent plant species recorded in the habitat include Marram (*Ammophila arenaria*), Smooth Meadow-grass (*Poa pratensis*), Wild Carrot (*Daucus carota*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Harebell (*Campanula rotundifolia*) and Kidney Vetch (*Anthyllis vulneraria*). The moss cover is well developed and includes the species *Rhytidiadelphus squarrosus*, *Hypnum cupressiforme*, *Tortula ruralis* and *Homalothecium lutescens*. The conspicuous lichen *Peltigera canina* is also occasionally encountered in the vegetation. At Nakil, on the southern tip of the peninsula, there is a fine example of decalcified fixed dunes. In this habitat, there is a range of heath species such as Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*), Sheep's-fescue (*Festuca ovina*), Tormentil (*Potentilla erecta*) and Devil's-bit Scabious (*Succisa pratensis*), along with dune species such as Sand Sedge, Lady's Bedstraw and Wild Thyme. Smaller areas of shifting dunes with Marram are found in most of the dune areas within the site and typically occur along the most exposed ridges of sand dune systems. The vegetation is species-poor and generally sparse. Along with Marram, typical plant species include Sea Mayweed (*Matricaria maritima*), Sea-holly (*Eryngium maritimum*), Colt's-foot (*Tussilago farfara*) and the locally rare Sea Bindweed (*Calystegia soldanella*).

Saltmarshes occur in a number of places, notably at Elly Bay, Sallee Harbour, Bunnahowen, Doolough and Gweesalia. Typical species include Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Aster (*Aster trifolium*), Sea Milkwort (*Glaux maritima*), Sea Rush (*Juncus maritimus*) and Saltmarsh Rush (*Juncus gerardi*). At the lower levels of the marshes, and in places extending onto the open

sandflats, Glasswort (*Salicornia europaea* agg.) and Annual Sea-blite (*Suaeda maritima*) occur. The site also includes shallow freshwater lakes, Termoncarragh Lough, Cross Lough and Leam Lough. Cross Lough is a good example of a naturally eutrophic lake. The water of the lake appears to have a permanent turbid, yellow-brown colour and is unusual in that the phytoplankton is dominated by *Spirulina* spp. and other unusual cyanobacteria. The waters of the lake have a high chloride content (118 mg/l) and a relatively high calcium content (16 mg/l). The western shore of the lake is sandy and tends to be dominated by the stonewort *Chara aspera*, with some Shoreweed (*Littorella uniflora*). Other aquatic plant species which have been recorded from the lake include Spiked Water-milfoil (*Myriophyllum spicatum*), Long-stalked Pondweed (*Potamogeton praelongus*), Slender-leaved Pondweed (*Potamogeton filiformis*) and Fennel Pondweed (*Potamogeton pectinatus*). Marsh and swamp vegetation is well developed around Termoncarragh Lough, and of particular note is a fine example of alkaline fen. This is species-rich, with such fen plants as Jointed Rush (*Juncus articulatus*), Glaucous Sedge (*Carex flacca*), Grass-of-parnassus, Knotted Pearlwort (*Sagina nodosa*), Marsh Arrowgrass (*Triglochin palustris*), Common Butterwort (*Pinguicula vulgaris*) and Lesser Clubmoss (*Selaginella selaginoides*). The scarce Marsh Helleborine (*Epipactis palustris*) also occurs here. A feature of the fen is a strong maritime influence, with the presence of a number of saltmarsh species such as Sea Milkwort, Buck's-horn Plantain (*Plantago coronopus*), and Sea Arrowgrass (*Triglochin maritima*). The Annex II liverwort species *Petalophyllum ralfsii* has been recorded from damp areas of machair at Doolough and Dooyork. The Red Data Book plant species Narrow-leaved Marsh-orchid (*Dactylorhiza traunsteineri*) also occurs. Otter, a species also listed under Annex II of the Habitats Directive, is well distributed throughout the site. This site has high ornithological importance, with seven Annex I E.U. Birds Directive species occurring regularly in winter, and a further two as rare breeders. Blacksod Bay provides ideal habitat for divers (all given counts are average maxima over the three winters 1994/95 to 1996/97), with Great Northern Diver (64) occurring in numbers of international importance and Red-throated Divers (45) in significant numbers. The site is an important wintering area for an internationally important population of Barnacle Goose (400-500), and also populations of Greenland White-fronted Goose (56) and Whooper Swans (95). Golden Plover are regular in small numbers (c. 700), while a nationally important population of Bar-tailed Godwits (552) occur. Little Tern has bred in small numbers in the past, while the site is well-known for one of Ireland's rarest breeding birds, the Red-necked Phalarope. Unfortunately this species may now be extinct as a breeding species. A wide range of other wintering birds occur. Of particular note are Brent Goose (212) and Ringed Plover (524), both of which have internationally important populations. A further six species have populations of national importance: Common Scoter (642), Red-breasted Merganser (50), Grey Plover (60), Knot (342), Sanderling (58) and Dunlin (2,601). The site is also notable for its breeding waders, with very important concentrations of Dunlin (26 pairs in 1996) and Lapwing (43 pairs in 1996), and significant numbers of Snipe (12 pairs) and Ringed Plover (5 pairs). High levels of grazing and associated agricultural practices, e.g. feeding of stock and fertilisation, have resulted in locally severe damage to areas of dune and machair. The damage has been intensified by the division of dune and machair commonage, which is particularly evident on the Mullet. These agricultural activities remain serious threats. Benthic communities are very vulnerable to bottom-fishing gear such as that used for fishing oysters, and this is thought to be the most damaging activity in the marine area. Bait digging is potentially damaging to littoral sediment communities if the areas are over-fished.

This site is of high importance for the range of marine and coastal habitats, many of which are listed on

Annex I of the E.U. Habitats Directive, three having priority status. The Annex II species *Petalophyllum ralfsii* and Otter also occur. The site is also of particular ornithological importance, having four wintering species with internationally important populations and also important concentrations of breeding waders.

SITE SYNOPSIS Version Date: 18/10/13

SITE NAME: BLACKSOD BAY/BROAD HAVEN SPA

SITE CODE: 004037

Situated in the extreme north-west of Co. Mayo, this site comprises a number of bays and inlets including Sruwaddacon Bay, Moyrahan Bay, Traw-Kirtaun, Blind Harbour, Tullaghan Bay, and the various sheltered bays and inlets in Blacksod Bay, including Trawmore Bay, Feorinyeeo Bay, Saleen Harbour, Elly Bay and Elly Harbour. At low tide extensive areas of intertidal sand and mudflats are exposed. These support a well-developed macro-invertebrate fauna. Talitrid amphipods occur in decomposing seaweed on the strand line, whilst polychaete worms (*Arenicola marina*), bivalves (*Cerastoderma edule*) and crustaceans, such as *Urothoe brevicornis*, *Ampelisca brevicornis* and *Bathyporeia pilosa*, are common in the middle shore. Eelgrass (*Zostera marina*) occurs at several localities. Salt marshes, which are often on a peat substrate, fringe parts of the site and provide useful roosts for the wintering waterfowl. Also included within the site are two small lakes on the Mullet Peninsula, Cross Lough and Leam Lough, and some areas of machair at Fahy, Doolough, Dooyork and Srah. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Northern Diver, Light-bellied Brent Goose, Common Scoter, Red-breasted Merganser, Ringed Plover, Sanderling, breeding Dunlin (subsp. *schinzii*), Dunlin, Bar-tailed Godwit, Curlew and Sandwich Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site supports an excellent diversity of wintering waterfowl species and is one of the most important wetland complexes in the west. It has internationally important populations of Great Northern Diver (67) and Light-bellied Brent Goose (279) – all figures are five year mean peaks for the period 1999/2000 to 2003/04. The site also supports nationally important populations of Common Scoter (510), Red-breasted Merganser (83), Ringed Plover (590), Sanderling (171), Dunlin (1,255), Bar-tailed Godwit (664) and Curlew (567). Other species which occur include Shelduck (30), Mallard (84), Red-throated Diver (12), Oystercatcher (471), Golden Plover (947), Grey Plover (50), Knot (160), Redshank (161), Turnstone (62), Black-headed Gull (220) and Common Gull (355). A number of wader species breed within the areas of machair in the SPA, including a nationally important population of Dunlin (subsp. *schinzii*) – 24 pairs (3 survey mean, 1985-2009). Inishderry Island has a nationally important breeding colony of Sandwich Tern, with 114 pairs present in 1994 and 81 pairs in 1995. The terns at this site are considered to be the same population that nested at Carrowmore Lake in the past. It also has nesting Common Tern and Arctic Tern (total for the two species of 42 pairs in 1995), and a colony of Black-headed Gull (100 individuals in 1995). Little Tern has also bred in small numbers in the past (6 pairs in 1984).

Blacksod Bay/Broad Haven SPA is of high ornithological importance for its excellent diversity of wintering waterbirds, including internationally important populations of Great Northern Diver and Light-bellied Brent Goose, and nationally important populations of seven other species. Of particular note is the usage of the site by over 4% of the all-Ireland population of Ringed Plover. It is also a nationally important breeding site for

Sandwich Tern and Dunlin (subsp. *schinzii*). It is of note that eight of the species that occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Great Northern Diver, Red-throated Diver, Golden Plover, Dunlin (subsp. *schinzii*), Bar-tailed Godwit, Sandwich Tern, Common Tern and Arctic Tern. Blacksod Bay and Broad Haven is a Ramsar Convention site.

APPENDIX 4

THIRD SCHEDULE

Non-native species subject to restrictions under *Regulations 49 and 50*

Part 1: PLANTS

First column	Second column	Third column
Common name	Scientific name	Geographical application
American skunk-cabbage	<i>Lysichiton tneeticus</i>	Throughout the State
A red alga	<i>Gratdoupia doryphora</i>	Throughout the State
Brazilian giant-rhubarb	<i>Gunnera manicata</i>	Throughout the State
Broad-leaved rush	<i>Juncus planifolius</i>	Throughout the State
Cape pondweed	<i>Aponogeton distachyos</i>	Throughout the State
Cord-grasses	<i>Spartina</i> (all species and hybrids)	Throughout the State
Curly waterweed	<i>Lagarosiphon major</i>	Throughout the State
Dwarf eel-grass	<i>Zostera japonia</i>	Throughout the State
Fanwort	<i>Cabomba caroliniana</i>	Throughout the State
Floating pennywort	<i>Hydrocotyle ratmnculoides</i>	Throughout the State
Fringed water-lily	<i>Nymphoides peltata</i>	Throughout the State
Giant hogweed	<i>Heracleum mantegazzianum</i>	Throughout the State
Giant knotweed	<i>Fallopia sachalinensis</i>	Throughout the State
Giant-rhubarb	<i>Gunnera tinctoria</i>	Throughout the State
Giant salvinia	<i>Salvinia molesta</i>	Throughout the State
Himalayan balsam	<i>Impatiens glanduUfera</i>	Throughout the State
Himalayan knotweed	<i>Persicaria wallichii</i>	Throughout the State
Hottentot -fig	<i>Carpobrotus edulis</i>	Throughout the State
Japanese knotweed	<i>Pallopa japonica</i>	Throughout the State
Large-flowered waterweed	<i>Egeria densa</i>	Throughout the State
Mile-a-minute weed	<i>Persicaria perfoliata</i>	Throughout the State
New Zealand pigmyweed	<i>Crassula helmsii</i>	Throughout the State
Parrot's feather	<i>Myriophyllum aquaticum</i>	Throughout the State
Rhododendron	<i>Rhododendron ponlicum</i>	Throughout the State
Salmonberry	<i>Rubus spectabilis</i>	Throughout the State
Sea-buckthorn	<i>Hippophae rhamnoides</i>	Throughout the State
Spanish bluebell	<i>Hyacinthoides hispanica</i>	Throughout the State
Three-cornered leek	<i>Allium triquetrum</i>	Throughout the State
Wakame	<i>Undaria pinnatifida</i>	Throughout the State
Water chestnut	<i>Trapa natans</i>	Throughout the State
Water fern	<i>Azolla filiculoides</i>	Throughout the State
Water lettuce	<i>Pistia stratiotes</i>	Throughout the State
Water-primrose	<i>Ludwigia</i> (all species)	Throughout the State
Waterweeds	<i>Elodea</i> (all species)	Throughout the State
Wire weed	<i>Sargassum muticum</i>	Throughout the State

Part 2: ANIMALS

A: animals to which Regulations 49 and 50 apply throughout the State or in particular places or categories of places.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
A colonial sea squirt	<i>DJdemnum spp.</i>	Throughout the State
A colonial sea squirt	<i>Perophora japonica</i>	Throughout the State
All freshwater crayfish species except the white-clawed crayfish	<i>All freshwater crayfish species except Austropotamobius paliipes</i>	Throughout the State
American bullfrog	<i>Ranu catesbeiana</i>	Throughout the State
American mink	<i>Neovison vison</i>	Throughout the State
American oyster drill	<i>Urosalpinx dnerea</i>	Throughout the State
Asian oyster drill	<i>Ceratoslonia inornalum</i>	Throughout the State
Asian rapa whelk	<i>Rapana venosa</i>	Throughout the State
Asian river clam	<i>Corbiculu flumrinea</i>	Throughout the State
Bay barnacle	<i>B alarms improvisus</i>	Throughout the State
Black rat	<i>Rattus reams</i>	Offshore islands oniy
Brown hare	<i>Lepus europaeus</i>	Throughout the State
Brown rat	<i>Rattits norvegicus</i>	Offshore islands oniy
Canada goose	<i>Branta canadensis</i>	Throughout the State
Carp	<i>Cyprinus carpio</i>	Throughout the State
Chinese mitten crab	<i>Eriocheir sinensis</i>	Throughout the State
Chinese water deer	<i>Hydropotes inermis</i>	Throughout the State
Chub	<i>Leuciscus cephalus</i>	Throughout the State
Common toad	<i>Bufo bufo</i>	Throughout the State
Coypu	<i>Myocastor coy pus</i>	Throughout the State
Dace	<i>Leuciscus leuciscus</i>	Throughout the State
Freshwater shrimp	<i>Dikero gamin arus villosus</i>	Throughout the State
Fox	<i>Vulpes vulpes</i>	Offshore islands only
Grey squirrel	<i>Sciurus cnrolinensis</i>	Throughout the State
Greylag goose	<i>Anser anser</i>	Throughout the State
Harlequin Ladybird	<i>Harmonia axyridis</i>	Throughout the State
Hedgehog	<i>Erinaceus eiropaesus</i>	Offshore islands only
Irish stoat	<i>Musteta erminea hibemiais</i>	Offshore islands only
Japanese skeleton shrimp	<i>Caprella mutica</i>	Throughout the State
Muntjac deer	<i>Muntiacus reevesi</i>	Throughout the State
Muskrat	<i>Ondatra zibethicus</i>	Throughout the State
Quagga Mussel	<i>Dreissena rostrifonnis</i>	Throughout the State
Roach	<i>Rutilus rutilus</i>	Throughout the State
Roe deer	<i>Capreolus capreolus</i>	Throughout the Stale
Ruddy duck	<i>Oxyuru jamaicensis</i>	Throughout the State

First column	Second column	Third Column
Siberian chipmunk	<i>Tamias sibiricus</i>	Throughout the State
Slipper limpet	<i>Crepidula fornicata</i>	Throughout the State
Stalked sea squirt	<i>Styela clava</i>	Throughout the State
Tawny owl	<i>Strix aluco</i>	Throughout the State
Wild boar	<i>Sus scrofa</i>	Throughout the State
Zebra mussel	<i>Dreissena polymorpha</i>	Throughout the State

B: animals to which specified provisions of Regulations 49 and 50 apply.

First column	Second column	Third Column
Common name	Scientific name	Geographical application
Fallow deer	<i>Dama dama</i>	Throughout the State
Sika deer	<i>Cervus nippon</i>	Throughout the State

Part 3: VECTOR MATERIALS

First column	Second column	Third Column
Vector material	Species referred to	Geographical application
Blue mussel (<i>Mytilus edulis</i>) seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet (<i>Crepidula fornicata</i>) or from places within 50 km. of such places	Mussel (<i>Mytilus edulis</i>) Slipper limpet (<i>Crepidula fornicata</i>)	Throughout the State
Soil or spoil taken from places infested with Japanese knotweed (<i>Fallopia japonica</i>), giant knotweed (<i>Fallopia sachalinensis</i>) or their hybrid Bohemian knotweed (<i>Fallopia x bohémica</i>)	Japanese knotweed (<i>Fallopia japonica</i>) Giant knotweed (<i>Fallopia sachalinensis</i>) Bohemian knotweed (<i>Fallopia x bohémica</i>)	Throughout the State

APPENDIX 5

All Data With respect to Surface Water and Ground Water Status and Risks is available from Catchments.ie

APPENDIX 6

N/A