

b) Appendix B – AA Report

**Appropriate Assessment Report for the Galway Bay Marine and Renewable Energy Test Site in Galway Bay (Marine Institute/Smart Bay) - FS006566-**

Legislation: Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC)

Prepared by: The Marine Licence Vetting Committee

Date: 15<sup>th</sup> March 2017

<p>Name of project or plan:</p>	<p><b>Galway Bay Marine and Renewable Energy Test Site (Marine Institute/SmartBay )</b></p> <p>The development of a 37.52Ha wave, tidal and wind energy test site located on the north side of Galway Bay 2.4km south east of Spiddal in water depths of 20-24m of water, to allow for the testing of a range of marine renewable energy devices, innovative marine technologies and sensors and to allow researchers and scientists to conduct research in the marine environment, from a subsea observatory.</p>
<p>Name and location of Natura 2000 sites:</p>	<p><i>Galway Bay SAC Complex c SAC (000268) -situated 8.9km east of the Test Site –.</i></p> <p><i>Connemara Bog Complex SAC (002034) - situated 3.6km north of Test Site</i></p> <p><i>Lough Corrib SAC (000297)-situated 14.2km north east of Test Site-</i></p> <p><i>Inishmore Island SAC (000213)- situated 27km west of Test Site</i></p> <p><i>Black Head and Poulsallagh Complex SAC (000020)- situated app 7.6km south of test site</i></p> <p><i>Kilkieran Bay and islands SAC (002111)- situated 25km west of Test Site</i></p> <p><i>Inner Galway Bay SPA (004031) – situated 8.9km east of the Test Site-</i></p> <p><i>Connemara Bog Complex SPA (004181)-situated 5.9km northwest of the Test Site-</i></p> <p><i>Lough Corrib SPA (004042) situated 14.2km north east of Test</i></p>

Site-

*Inishmore SPA (004152) situated 27km west of the Test Site-*

The Qualifying Interests, both habitats and species, listed for these six SACs are summarised in Table 1 (habitats) and in Table 2 (species). Similarly, the listing of birds (features of interest) for the four pertinent SPAs is given in Table 3.

It is considered that any potential for impact by the proposed development would relate to habitats which are marine and are in the 'general' area of the proposed development. In addition, impacts to Qualifying species would relate to those species with a marine residency or with a significant use of the marine habitat in the environs of the proposed development in the context of the species' 'territory, for feeding etc. or the migratory route of the species through the potential area of impact of the proposed development. Those habitats and species considered to be most relevant, in terms of impact, in the context of the proposed development are highlighted in the tables.

Documentation provided in Environmental reports (with appendices) submitted by the applicant identify potential for impact of the development in the context of:

(a) Installation/construction Phase

(b) Operational Phase

(a) Installation activities may generate noise in context of increased shipping traffic to and from the test site and general human activity during installation. Installation of devices onto the sea bed or their anchoring onto the bed – attached to previously-placed anchorage – may impact to displace sediment and lead to smothering or mortalities of benthic invertebrates.

This impact is considered to be very localised, in view of reported current velocities, and not likely to have any impact of significance into any of the SACs or SPAs listed.

(b) Operational Phase will involve the various devices, listed in the application, in an active or operating mode. There is potential for noise, for electromagnetic field (EMF) generation, for turbulence generated by mechanical parts rotating/operating at the sea bed or in the water column and for strike impact of moving parts, including propellers (whether in the water column or in air mounted on platform on the water surface or seabed). The turbulence could impact on sediment and on benthic

organisms with dispersal, displacement and possible mortalities.

This impact is considered to be very localised and not likely to impact into any of the SAC habitats listed. There is potential for impact on the mobile animals using the SAC and its environs for feeding and migration. The four aquatic species covered are highlighted in Table 2 – the otter, harbour seal, salmon and sea lamprey.

**Otter:** this species is listed as a Qualifying Interest for 4 of the 6 SACs listed here. It feeds along the shoreline and uses shoreline habitat for its lifestyle requirements. The species is not considered likely to migrate out into the test centre area and, as such, unlikely to be impacted by mechanical operation of the test equipment. Underwater noise may impact on the species but indicated noise levels are expected to be low (as per information submitted).

**Harbour seal:** Listed in two of the six SACs considered, the Galway bay complex and the Kilkieran Bay complex. Given this distribution it is likely that the species will occur along the non-SAC coastline adjacent to the proposed test centre. The species may swim widely and may occur in the test site area.

**Salmon:** Listed for the Connemara Bog complex and for the Lough Corrib SAC. Neither SAC has borders along the part of Galway Bay adjoining the proposed test site. Adult salmon migrate into both SAC's at various times of the year and out-migrating salmon smolts exit the SAC's in March-June period annually. This out-migration is the first step in an open sea migration to feeding grounds off Iceland or Greenland. Both the adult and smolt stages would be travelling in the water column in Galway Bay. The salmon have a highly developed homing instinct. Adult fish are likely to move in specific trajectories within Galway Bay to find the entrance to the Lough Corrib SAC in Galway City and the non-SAC river mouths or channels, such as the Rivers Owenboliska and Knock, whose upper waters form part of the Connemara Bog Complex SAC and are designated for salmon. The application site is to the east of the Owenboliska River mouth and adults and smolts of salmon would be likely to be moving to the west of the river mouth and avoid the application site.

**Sea lamprey:** Listed for the Lough Corrib SAC only. As with salmon, adult sea lamprey migrate into the Lough Corrib SAC to spawn in freshwater, with migration occurring in the spring period and freshwater spawning in June and July in Irish rivers. Therefore the adult sea lamprey would be moving in Galway

Description of the project or plan

Bay in the March – June period, migrating in as salmon smolts move out. The sea lamprey do not have fidelity to natal streams. They use olfaction to navigate and select channels into which they enter. They are sensing for chemicals or pheromones released by adult or larval lamprey living in a catchment. Such pheromones are likely to be most available in the discharge plumes of channels as their waters enter Galway Bay. Current literature indicates that shoreline searching by the adult migrating sea lamprey is significant in locating river mouths. Populations of larval lamprey are known to be present in the Lough Corrib SAC, particularly from the Clare River system. Juvenile or post-larval sea lamprey migrate out to sea in the autumn period in any year.

The Proposed works are described in more detail with reference to the Environmental Report (Dated February 2016) Section 4.3, and is located as shown on Drawing No's 01, 02 and 03.

The Marine Institute plans to upgrade the existing wave energy test site located off the coast of Spiddal. The location of the test site area will remain unaltered from that of the existing site (leased under FS004494) which is a site of 37.52Ha on the north side of Galway Bay 2.4km south east of Spiddal in water depths of 20-24m

The current test site infrastructure consists of the following:

- Navigational Markers at the four corners of the existing site
- A Wave rider buoy
- An acoustic monitoring buoy
- SmartBay data buoy
- A cable to shore (installed under Foreshore Licence No 2014/02786)

The proposed development on site can be separated into two categories as follows:

1 INFRASTRUCTURE ON SITE

2 TEST AND DEMONSTRATION DEVICES

There will also be a requirement as appropriate for cables and cabling associated with the inter connection between 1 and 2

above.

A more detailed outline of these proposed structures is provided in the Environmental Report (ref Section 4.3), submitted by the Applicant and available on line at:

<http://www.housing.gov.ie/planning/foreshore/applications/marine-institute-spiddal>

The upgrading of an existing 37.52Ha wave energy test site will allow for the testing of a range of marine renewable energy devices, a floating turbine and innovative marine technologies and sensors and will allow researchers and scientists to conduct research in the marine environment from a subsea observatory

The proposed application is for the use of an upgraded test site to operate for up to 35 years with devices on site intermittently over that period, but no more than three devices will be allowed on the test site at the same time.

The upgrade of the site will involve deploying a range of supporting infrastructure to the site including:

- An acoustic array for monitoring underwater sound
- A 'SeaStation' platform to provide power to and dissipate power from ocean energy devices
- Buoys for testing of marine technologies and scientific sensors
- A waverider data buoy for wave measurements
- Interlocking modular gravity foundations
- A variety of scientific sensors and instruments
- Cables to connect the instruments, sensors and ocean energy devices

Upgrading the site will enable periodic deployment of the following types of devices for test and evaluation:

- Surface ocean energy converters
- Sub-surface open energy converters
- Seabed ocean energy converters
- Prototype floating wind turbines
- Novel marine technologies and scientific sensors

The maximum actual footprint of the infrastructure within the test site on the seabed estimates at 460m<sup>2</sup> based on 135m<sup>2</sup> (for permanent or recurring /short term infrastructure) and 325

m2 (for test devices worst case scenario). This in effect means that a very small % ( app 0.12%) of the overall test site seabed area (37.5Ha) will actually be occupied by structures at any time.(ref Pg 33/34 and Table 4 in the Environmental Impact and Mitigation Desk Study Report dated October 2015)

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

No.

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

There are no other known or proposed developments in planning that would have a cumulative effect.

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

The works could potentially;

A -DURING INSTALLATION PHASE-

- Impact on macro-invertebrate communities in bay/estuarine environments as a result of the installation
- Disturb natural sediments on seafloor by installation of devices leading to smothering and increased suspended sediment and turbidity levels
- Disturb and displace birds, marine mammals fish/shellfish from construction noise(device installations/removal and installation/service vessel movements)
- Lead to increased risk of collision with installation vessel with birds and marine mammals
- Introduce pollutants into the water column during installation phase including from accidental pollution from service and support vessels.

And

## B-DURING OPERATIONAL PHASE

- Disturb and displace marine mammals and fish/shellfish from noise generated from the operation of the devices and maintenance vessels
- Impact on hydrodynamics and sediment processes from the generation of EMR Fields
- Impact on the movement and migration patterns of Marine Mammals and fish species (including Annex II species sea lamprey and Atlantic salmon migrating to and from adjoining SACs) from the generation of EMR Fields from the cables and devices in operation
- Impact on sediment transport pathways and coastal processes from the physical presence of devices and associated infrastructure by accretion or erosion (scour).
- Cause a direct loss of benthic habitat and sessile species in the footprint of the devices and infrastructure
- Create a barrier to movement of marine mammals, fish and birds from presence of devices and infrastructure leading to avoidance behaviour and potential habitat exclusion
- Lead to increased risk of collision for birds, Marine Mammals and fish (including Annex II species sea lamprey and Atlantic Salmon migrating to and from adjoining SAC's) with the devices themselves in operation (e.g. rotating parts including wind turbine) and with service/maintenance vessels

### Assessment of significance of the above listed effects on habitats and species of the Natura 2000 sites

The actual footprint of the infrastructure within the test site estimates that app 460 m<sup>2</sup> of the seafloor will be occupied by the site infrastructure and test devices. This means that a very small % ( 0.12%) of the overall test site seabed area (37.5Ha) will actually be occupied by structures thus the proposed works will result in a very small area of interaction with the seabed within the bay/estuarine habitat.

Any increase in water column turbidity will be temporary, localised and within the natural range of variability caused by current induced sediment re-suspension. The reported current velocities are low at both ebb and full spring tides and disturbed sediment is unlikely to be transported to Annex I habitats nor is

habitat in Annex I habitats likely to be disturbed by sediment transport.

The noise generated from the addition of a small number of service/maintenance and installation vessels to the area is not expected to have any significant impact on marine mammals fish or bird species given the levels of ship traffic that currently exist in this area. The installation of an acoustic array for monitoring underwater sound will permit a monitoring of any noise issues.

Operational noise from individual devices or small arrays of devices is unlikely to have large scale effects on behaviour or survival of marine mammals, fish or bird species. Based on studies carried out to date and the nature and use of the proposed renewable energy test site, the impact of 3(max) operating scaled energy devices on marine animals, fish and bird species in the area will be negligible. The predicted operational noise impact will be low.

In addition seal haul out sites are c 13km from the test site and any airborne noise from the vessel activity will not disturb harbour seals on land. While the likelihood of a noise related impact occurring during the installation phase is possible, the consequences would be negligible based on the foregoing.

The collision risk with birds and marine mammals during installation is likely to be lower than that posed by commercial shipping traffic.

Given the scaled sizes of devices, the slow speed of turbine blades in the water column (low current velocities) the number of turbines (max 1 No) likely to be in operation at any one time and the low number and short term intermittent nature of the installation/service vessels the likelihood of any collision occurring with marine mammals, fish or bird species is unlikely and the predicted impact is low. Not all devices proposed for testing have propellers. Many have their moving parts sealed inside the actual structure, thereby reducing any potential for entrainment and damage to marine mammals, fish and birds. Furthermore the applicant has undertaken that it will liaise with the appropriate state authorities in regard to the timing of installation of specific devices in the context of known sensitive times for Annex II marine mammal and fish species

Given the very small area of available feeding habitat lost to the devices seafloor footprint (460m<sup>2</sup> or 0.12% of test site area) and sea surface footprint (1435m<sup>2</sup> or 0.38% of test site area) which are only a very small percentage of the inner bay ,there



will be no impact on bird populations.

The small number of scaled devices that will be deployed in the test site at any one time and the open water extending c 1km between the test site and the northern shore of Galway Bay make the likelihood of any exclusion or barrier effect occurring remote and the consequences would be negligible.

It is anticipated that there could be up to 3 cables connecting scaled test devices to the SeaStation and a 4<sup>th</sup> cable connecting the SeaStation to the CEE At 3.5Kw and 400V. The power and voltage of the proposed cables are a fraction of those found in higher power undersea cables (e.g. East West Interconnector: 500,000KW at up to 200000V). The low power levels in the proposed cables means that the magnetic field and induced electric field from the proposed cables will not have any significant impact on marine mammals and fish species in the area. The likelihood of an impact occurring is unlikely and the consequences would be negligible.

The placement of any infrastructure on the seabed will disturb and remobilise sediments in the immediate footprint of the object. This will result in a short term (minutes) localised increase in suspended sediment levels and turbidity therefore they will be so low as to have no effect on water quality habitats or species (naturally high background levels of 65000 mg/l have been recorded in Galway Bay during storm conditions which are orders of magnitude greater than what would be generated by the proposed activities).

Sediment disturbance during operational phase include for scour around gravity bases however given the relatively low velocities in the area any impact from this is likely to be minimal. The movement of moorings, cables and devices on and off the seabed has the potential to disturb and remobilise sediments. It is estimated that up to 5 meters either side of the lines/cables could be affected however the sediments disturbed by this activity will be orders of magnitude lower than that generated during storm events and any short term temporary impacts from this will have a negligible impact on the environment.

In summary disturbance to sediments and the resultant increases in suspended sediments and turbidity and subsequent deposition of sediments will be of such a scale that impacts on marine mammals and fish species will be negligible.

The maximum seabed footprint area to be occupied by site infrastructure and test structures within the test site is c 460m<sup>2</sup>

This footprint accounts for just 0.12% of the test site area (37.52Ha). The actual area lost is so small that the impact on the benthic community will be negligible. In addition the loss of such a small area of seabed is extremely unlikely to cause any reduction in fish stocks or spawning and nursery areas. Marine mammals in the area are extremely unlikely to be impacted upon given the very small area of seabed impacted and the extremely unlikely impact on fish stocks in the area.

In addition a number of construction, operational and best practice measures are recommended to ensure minimal impact from the test site with marine mammals. These are presented in S 4.3 of the Applicants own AA Stage 1 Screening Report dated November 2015 and they include for:

- The presence of MMOs when work is taking place
- Target work during spring/early summer (time of lowest porpoise presence)
- Work during daylight hours (minimise collision risk of birds/mammals with vessels)
- Design devices for minimal collision risk
- Minimise service vessel trips
- Avoid sensitive time for local receptors
- Use low toxicity and biodegradable materials
- Design infrastructure for minimum maintenance.
- Design devices to minimise risk of leakage of pollutants
- Implementation of Shipboard Oil Pollution Emergency Plan (SOPEP)

These construction, operational and best practice measures are proposed to ensure that there will be a low to nil risk of any impact on marine mammals from the operation of the proposed test site. Their implementation will also further minimise any potential impacts on fish and bird species from the operation of the test site

The low power levels in the proposed cables mean that the magnetic field and induced electrical field from the proposed interconnecting cables will not have any significant effect on salmon or sea lamprey in the area and migrating salmon and sea lamprey will not be impacted by the presence of 1-3 scaled test devices and associated infrastructure in the test site.

The presence of 1 short term temporary wind turbine in the test site (25m hub height ,20m blade diameter) has the potential to be a specific collision risk for bird species ,however a collision would be extremely unlikely as the birds will be able to see and detect the turbine and adjust flight paths accordingly and also

as the turbine will be lit at night

There will be no direct or indirect impact and there will not be significant disturbance to key habitats or species. Additionally there will be no habitat or species fragmentation and the overall integrity of the Natura 2000 sites will not be affected.

On the basis of the above it is concluded that there are not likely to be any significant effects as a result of the upgrading of an existing 37.52Ha wave energy test site, to allow for the testing of a wider range of marine renewable energy devices, floating turbine, innovative marine technologies and novel sensors in Galway Bay on the Conservation Objectives of the 10 No pertinent Natura 2000 Sites as listed on the first page of this report.

Who carried out the assessment?

Department of Housing Planning Community and Local Government and Marine Licence Vetting Committee, 15<sup>th</sup> Mar 2017



Table 1. Qualifying habitats within SACs occurring in geographical area bounding the proposed development

Distance from proposed development (km)	0268 Galway bay complex SAC	2034 Connemara Bog Complex SAC	2111 Kilkieran Bay and islands SAC	0213 Inishmore Island SAC	0020 Black Head and Pousallagh Complex SAC	0297 Lough Corrib SAC
	8.9	3.6	25	27	9.2	14.2
<b>Features of Interest</b>						
<b>Mudflats and sandflats not covered by seawater at low tide [1140]</b>	Yes					
<b>Large shallow inlets and bays [1160]</b>	Yes		Yes			
<b>Reefs [1170]</b>	Yes	Yes	Yes	Yes	Yes	
<b>Salicornia and other annuals colonising mud and sand [1310]</b>	Yes					
<b>Coastal lagoons [1150]</b>	Yes	Yes	Yes	Yes		
<b>Submerged or partially submerged sea caves [8330]</b>				Yes	Yes	
<b>Perennial vegetation of stony banks [1220]</b>	Yes			Yes	Yes	
<b>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</b>	Yes			Yes	Yes	
<b>Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]</b>	Yes		Yes	Yes		
<b>Mediterranean salt meadows (Juncetalia maritimi) [1410]</b>	Yes		Yes			
<b>Turloughs [3180]</b>	Yes					
<b>Semi-natural dry grasslands and scrubland etc. (6210)</b>	Yes				Yes	Yes
<b>Calcareous fens with Cladium mariscus etc. [7210]</b>	Yes					Yes
<b>Alkaline fens [7230]</b>	Yes	Yes				Yes
<b>Oligotrophic waters containing very few minerals etc. [3110]</b>		Yes				Yes
<b>Oligo/meso standing waters etc. [3130]</b>		Yes				Yes
<b>Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</b>		Yes	Yes			Yes
<b>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</b>		Yes			Yes	Yes

Table 1. continued

Distance from proposed development (km)	0268 Galway bay complex SAC	2034 Connemara Bog Complex SAC	2111 Kilkieran Bay and Islands SAC	0213 Inishmore Island SAC	0020 Black Head and Poulisallagh Complex SAC	0297 Lough Corrib SAC
	8.9	3.6	25	27	9.2	14.2
Molinia meadows on calcareous, peaty or clayey-silt-laden soils [6410]		Yes				Yes
Active raised bogs [7110]						Yes
Degraded raised bogs still capable of natural regeneration [7120]						Yes
Depressions on peat substrates of the Rhynchosporion [7150]		Yes				Yes
Petrifying springs with tufa formation (Cratoneurion) [7220]						Yes
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]		Yes				Yes
Bog woodland [91D0]						Yes
Natural dystrophic lakes and ponds [3160]		Yes				
Northern Atlantic wet heaths with Erica tetralix [4010]		Yes				
European dry heaths [4030]		Yes		Yes		
Blanket bogs (* if active bog) [7130]		Yes				
Transition mires and quaking bogs [7140]		Yes				
Machairs (* in Ireland) [21A0]		Yes	Yes	Yes		
Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]			Yes	Yes	Yes	
Embryonic shifting dunes [2110]			Yes	Yes		
Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]				Yes		
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]				Yes		
Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]				Yes		
Humid dune slacks [2190]				Yes		
Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]						Yes
Juniperus communis formations on heaths or calcareous grasslands [5130]						Yes
Petrifying springs with tufa formation (Cratoneurion) [7220]						Yes

Table 2. Qualifying species within SACs occurring in geographical area bounding the proposed development

Distance from proposed development (km)	0268 Galway Bay complex SAC	2034 Connemara Bog Complex SAC	2111 Kilkieran Bay and Islands SAC	0213 Inishmore Island SAC	0020 Black Head and Poulisallagh Complex SAC	0297 Lough Corrib SAC
8.9	Yes	Yes	Yes	Yes	Yes	Yes
3.6	Yes	Yes	Yes	Yes	Yes	Yes
25	Yes	Yes	Yes	Yes	Yes	Yes
27	Yes	Yes	Yes	Yes	Yes	Yes
9.2	Yes	Yes	Yes	Yes	Yes	Yes
14.2	Yes	Yes	Yes	Yes	Yes	Yes

**Features of Interest**

- Lutra lutra (Otter) [1355]
- Phoca vitulina (Harbour Seal) [1365]
- Salmo salar (Salmon) [1106]
- Petromyzon marinus (Sea Lamprey) [1095]
- Lampetra planeri (Brook Lamprey) [1096]
- Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]
- Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]
- Austropotamobius pallipes (White-clawed Crayfish) [1092]
- Euphydryas aurinia (Marsh Fritillary) [1065]
- Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]
- Petalophyllum ralfsii (Petalwort) [1395]
- Drepanocladus vernicosus (Slender Green Feather-moss) [1393]
- Najas flexilis (Slender Naiad) [1833]

**Table 3. Qualifying birds within SPAs occurring in geographical area bounding the proposed development**

	Lough Corrib SPA (004042)	Inishmore SPA (004152)	Connemara Bog Complex SPA (004181)	Inner Galway Bay SPA (004031)
Gadwall ( <i>Anas strepera</i> ) [A051]	Yes			
Shoveler ( <i>Anas clypeata</i> ) [A056]	Yes			Yes
Pochard ( <i>Aythya ferina</i> ) [A059]	Yes			
Tufted Duck ( <i>Aythya fuligula</i> ) [A061]	Yes			
Common Scoter ( <i>Melanitta nigra</i> ) [A065]	Yes			
Hen Harrier ( <i>Circus cyaneus</i> ) [A082]	Yes			
Coot ( <i>Fulica atra</i> ) [A125]	Yes			
Golden Plover ( <i>Pluvialis apricaria</i> ) [A140]	Yes		Yes	Yes
Black-headed Gull ( <i>Chroicocephalus ridibundus</i> ) [A1	Yes			Yes
Common Gull ( <i>Larus canus</i> ) [A182]	Yes		Yes	Yes
Common Tern ( <i>Sterna hirundo</i> ) [A193]	Yes			Yes
Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]	Yes	Yes		
Greenland White-fronted Goose ( <i>Anser albifrons flæ</i>	Yes			
Wetland and Waterbirds [A999]	Yes			Yes
Kittiwake ( <i>Rissa tridactyla</i> ) [A188]		Yes		
Little Tern ( <i>Sterna albifrons</i> ) [A195]		Yes		
Guillemot ( <i>Uria aalge</i> ) [A199]		Yes		
Cormorant ( <i>Phalacrocorax carbo</i> ) [A017]			Yes	Yes
Merlin ( <i>Falco columbarius</i> ) [A098]			Yes	
Great Northern Diver ( <i>Gavia immer</i> ) [A003]				Yes
Grey Heron ( <i>Ardea cinerea</i> ) [A028]				Yes
Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046]				Yes
Wigeon ( <i>Anas penelope</i> ) [A050]				Yes
Teal ( <i>Anas crecca</i> ) [A052]				Yes
Red-breasted Merganser ( <i>Mergus serrator</i> ) [A069]				Yes
Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]				Yes
Lapwing ( <i>Vanellus vanellus</i> ) [A142]				Yes
Dunlin ( <i>Calidris alpina</i> ) [A149]				Yes
Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]				Yes
Curlew ( <i>Numenius arquata</i> ) [A160]				Yes
Redshank ( <i>Tringa totanus</i> ) [A162]				Yes
Turnstone ( <i>Arenaria interpres</i> ) [A169]				Yes
Sandwich Tern ( <i>Sterna sandvicensis</i> ) [A191]				Yes