Northern Ireland Marine Plan Habitats Regulations Appraisal: Pre-Screening Report

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Summary

ABP Marine Environmental Research Ltd (ABPmer) has been commissioned by AECOM to prepare this report on behalf of the Department of Environment (DoE) for Northern Ireland. It presents guidance on the work that will be required to undertake a Habitats Regulations Appraisal (HRA) for the Northern Ireland Marine Plan (referred to as "the Plan") and evaluate its effect on protected European/Ramsar sites. It also presents findings from the initial 'Pre-Screening' phase of this HRA process.

The HRA process will follow good practice guidance for undertaking plan-level HRAs (David Tyldesley and Associates, 2012). The HRA work will also take account of the lessons learned from, and approaches taken during, past plan-level HRA projects. This will include the HRA of the recently completed English East marine plans (MMO, 2013) and the HRA that has begun for the developing English South marine plans (MMO, in prep). The methods applied in this HRA will also take account of other 'case example' HRAs for sectoral plans, including most recently The Crown Estate's Wave and Tidal Further Leasing (W&TL) plan (ABPmer, 2014) which is the first marine plan HRA to have a national scope and involve all the UK administrations.

In line with available guidance, the HRA process will need to be clear, iterative and auditable. This is to ensure there is full clarity in the assessment findings and that issues of uncertainty are fully recognised and addressed. It will also need to follow a precautionary approach to meet the requirements of the Habitats Regulations.

To follow these principles, it is recommended that the full HRA process is divided into the following four phases (with a report produced after each element as necessary):

- **Pre-Screening (this report):** identifying an initial list of potentially relevant European/Ramsar sites for consideration and setting out the HRA methods;

- **Screening Report**: identifying (i.e. 'screening in' to the next assessment stage) the plan policies that need to be assessed and, if required, ecological screening of European/Ramsar sites for which there is a 'likely significant effect' (LSE) from the Plan (or where a LSE cannot be excluded);

- **Appropriate Assessment Information Report (AAIR):** assessing the effects of the relevant plan policies on the integrity of the 'screened in' European/Ramsar sites; and

- **Appropriate Assessment (AA):** preparing the formal assessments and HRA record on the basis of the AAIR findings.

For the initial pre-screening phase, a 100km 'buffer zone' was defined around the Plan area and all the European/Ramsar sites within that zone were identified. In total 345 European/Ramsar sites were identified comprising 98 SPAs, 201 SACs/cSACs/SCIs and 46 Ramsar sites. These sites will be reviewed further in the screening stage which will comprise two key elements:

- Policy screening: identifying those plan policies that meet a defined set of screening criteria and, therefore, will need to be assessed. If none of the policies require assessment then there will be no requirement to proceed further with the HRA process; and

- Ecological screening identifying those European/Ramsar sites for which (in the context of available mitigation measures) there could be LSE from those 'screened in' policies and, therefore, will need to be assessed.

The subsequent assessment stage will then consider the particular environmental pressures brought about by the relevant plan policies. An assessment of their impacts on the integrity of the European/Ramsar sites will be made with regard to relevant conservation objectives.

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The impacts of these policies will also need to be assessed in-combination with other plans or projects influencing the Plan area. Any additional mitigation measures that might be needed to ensure the Plan will not have an adverse effect on integrity (AEOI) of any European/Ramsar sites will be identified.

This HRA will be steered by ongoing consultations with key stakeholders.

Abbreviations

AA	Appropriate Assessment
AAIR	Appropriate Assessment Information Report
ABP	Associated British Ports
ABPmer	ABP Marine Environment Research Ltd
AEOI	Adverse effect on integrity
BTO	British Trust for Ornithology
CCW	Countryside Council for Wales
CIS	Celtic and Irish Sea
CM	Connemara-Mayo
cSAC	candidate Special Area of Conservation
CWSH	Coastal west Scotland and Hebrides
DoE	Department of Environment
EC	European Commission
EEC	European Economic Community
EU	European Union
FAME	Future of the Atlantic Marine Environment
GIS	Geographical Information System
HRA	Habitats Regulations Appraisal
HRCS	High Resolution Continental Shelf’
IROPI	Imperative Reasons for Overriding Public Interest
IS	Irish Sea
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
LSE	Likely significant effect
MMO	Marine Management Organisation
NAEOI	No adverse effect on integrity
N-RIP	National Infrastructure Renewables Plan
OW	Oceanic Waters
OWE	Offshore Wind Energy
PFOW	Pentland Firth and Orkney Waters (formerly referred to as PFSA)
PFSA	Pentland Firth Strategic Area (now referred to as PFOW)
POL	Proudman Oceanographic Laboratory

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pSAC	possible Special Area of Conservation
pSPA	potential Special Protection Area
RoI	Republic of Ireland
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SCI	Sites of Community Importance
SCOS	Special Committee on Seals
SMRU	Sea Mammal Research Unit
SNCB	Statutory Nature Conservation Body
SNH	Scottish Natural Heritage
SPA	Special Protection Area
UK	United Kingdom
WS	West Scotland
W&TL	Wave and Tidal Further Leasing

1 Introduction

ABP Marine Environmental Research Ltd (ABPmer) has been commissioned by AECOM to prepare this report on behalf of the Department of Environment (DoE) for Northern Ireland. It presents guidance on the work that will be required to undertake a Habitats Regulations Appraisal (HRA[1]) for the Northern Ireland Marine Plan (referred to as "the Plan") and evaluate its effect on protected European/Ramsar sites. This report also presents the results of the initial pre-screening stages of the HRA. A single HRA process is being undertaken to cover both the onshore and offshore areas of the Plan, the boundaries of which are shown in Figure 1.

The Plan will enable the DoE to advance towards a new plan-led system of marine management that will provide the framework within which decisions on future proposals are taken. In this way, marine users and prospective developers/investors will have greater certainty about Northern Ireland's marine priorities and should experience less regulatory burden thereby attracting more confidence to proceed with individual proposals. The Plan will also seek to support and complement existing plans wherever appropriate, signposting to any relevant information and policies. This will avoid replication and seek to ensure that only those new policies, which add value, are contained within the Plan.

Under Article 6 of the EU Habitats Directive (as enforced nationally by the Habitats Regulations), an HRA is required where a plan or project is likely to have a significant effect upon a Natura 2000 site (also known as a 'European Site'). Natura 2000 is a network of areas designated to conserve natural habitats that are in danger of disappearance in their natural range, have a small natural range, or present outstanding examples of typical characteristics of the biogeographic region and species that are rare, endangered, vulnerable or endemic within the European Community. These European sites are defined in the Habitats Regulations as including the following:

- Special Areas of Conservation (SACs) designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) for their habitats and/or species of European importance;
- Sites of Community Importance (SCIs) that have been adopted by the European Commission but not yet formally designated by the government of each country;
- Candidate SACs (cSACs) that have been submitted to the European Commission, but not yet formally adopted; and
- Special Protection Areas (SPAs) classified under the EC Directive on the Conservation of Wild Birds (the Birds Directive) for rare, vulnerable and regularly occurring migratory bird species and internationally important wetlands.

In the UK, the requirements of the Habitat Regulations also extend to the consideration of effects on:

- Potential SPAs (pSPAs) and possible SACs (pSACs); and
- Listed or proposed Ramsar sites under the 1971 Ramsar Convention on Wetlands of International Importance[2].These sites are collectively referred to throughout this report as European/Ramsar sites.

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1 The acronym HRA has been used in the past as either a 'Habitats Regulations Assessment' or a 'Habitats Regulations Appraisal'. For clarity, it here defines the whole 'appraisal process' by which the plans are evaluated (from pre-screening to final assessment). There is, therefore, a distinction between this process and the final Appropriate Assessment (AA) (as needed to evaluate a plan's effects where it is deemed to have a 'Likely Significant Effect' (LSE) on European/Ramsar site(s)).

2 pSPAs, pSACs and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a SPA, cSAC or Ramsar site.

The report has been structured as follows:

Section 1: Provides background to the role of the Plan for Northern Ireland and the need for an HRA, together with details of report structure and content;

Section 2: Provides further detail on the legal context and rationale for the HRA, including key underpinning guidance and an outline of the HRA approach;

Section 3: Provides methodology and results of the pre-screening process;

Section 4: Presents the proposed methodology for policy and ecological screening processes; and

Section 5: Provides a brief summary of the pre-screening and outlines the next screening and assessment steps in the HRA process.

2 Marine Plans HRA Process

2.1 Legal Context

Under the Habitats Regulations, where a plan or project is not directly connected with or necessary for the management of European/Ramsar sites, and where the possibility of a 'Likely Significant Effect' (LSE) on these sites cannot be excluded, either alone or in combination with other plans or projects, an Appropriate Assessment (AA) should be undertaken.

This assessment is made against the European/Ramsar sites' Conservation Objectives by the Competent Authority in compliance with the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the EC Habitats Directive). This Directive is transposed in Northern Ireland through the following, which are collectively referred to in this document as the 'Habitats Regulations':

- The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) transpose the Habitats Directive in relation to Northern Ireland; and

- The Offshore Marine Conservation (Natural Habitats) Regulations 2007 (SI 2007 No. 1842) (as amended) (the Offshore Habitats Regulations).

As listed in Section 1, the European sites to which the EU Habitat Directive applies to are SACs, SPAs, SCIs and cSACs. In the UK, these requirements are also extended to the consideration of effects on pSPAs, pSACs and Ramsar sites. In recognition of this, sites protected either by law under the Habitats Regulations, or by UK Government policy, are referred to throughout the HRA process as European/Ramsar sites.

The Competent Authority can adopt the Plan only after having ascertained that it will not adversely affect the integrity of the European/Ramsar sites concerned. The Department of the Environment (DoE) for Northern Ireland is the Competent Authority for undertaking the HRA of the Plan.

If it is concluded that the Plan will have an adverse effect on integrity (AEOI) on a European/Ramsar site (either alone or in combination with other plans or projects), the Plan can only be adopted if it has been ascertained that there are no alternative solutions and it is necessary for Imperative Reasons for Overriding Public Interest (IROPI), including those of a social or economic nature. In these circumstances, before such a plan can proceed, compensatory measures must be secured to ensure that the overall coherence of the network of Natura 2000 sites is maintained.

2.2 HRA Approach

Guidance on the methods for undertaking Plan-level HRAs has been prepared for Natural England, Scottish Natural Heritage (SNH) and Countryside Council for Wales (CCW) (David Tyldesley Associates, 2009a; b; 2012). Guidance has also been produced by the European Commission on the 'Assessment of plans and projects significantly affecting Natura 2000 sites' (EC, 2001). All of these are considered to be applicable in the Northern Ireland context.

The available guidance provides clear advice on the steps and process to be followed in undertaking Plan-level HRA which is directly applicable to an HRA of the Plan. Image 1 identifies the 13-step iterative process that is recommended for Plan-level HRAs by David Tyldesley Associates (2012). The project team recognise that it is vital that such an iterative process is followed. Adhering to this guidance, and clearly following the key stages, ensures that there is as much clarity as possible in the process and about how assessment decisions are reached. It is also important for understanding and addressing many of the particular challenges that are faced with respect to undertaking HRAs specifically for marine plans (as highlighted below). Having a transparent and phased process also ensures that the relevant documentation can be readily accessed, interpreted and interrogated.

It should be noted though that the existing plan-level HRA guidance listed above is inherently tailored towards terrestrial/land planning. Despite this, it has often been successfully applied to marine plans in the past and can be used effectively for the Plan. It should be recognised, though, that there is no specific guidance available on the process for undertaking marine plan HRAs.

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Furthermore, a number of specific challenges arise when considering the application of plan-level HRA to multi-sectoral marine plans. In particular, there are issues relating to:

- Understanding the relationship between the activities that will be driven by the marine plan policies and those that have already been assessed for pre-existing sectoral plan HRAs for separate marine activities such as offshore wind;
- Considering the limited level of detail that is available in relation to potential future marine activities covered by marine plans and therefore in dealing with the inherent uncertainty in the potential impacts of the plan; and
- Addressing the extent to which spatial policies for particular forms of development within a marine plan might be considered to create a presumption in favour of development and/or provide grounds for an 'IROPI' case (whereby IROPI are required for projects having an AEOI of a European/Ramsar site).

These and other issues can be addressed for the Northern Ireland Marine Plan HRA by following a similar approach to that used, or proposed, for other high-level strategic marine plans. This includes the HRA of the recently completed English East marine plans (MMO, 2013) and the HRA that has begun for the developing English South marine plans (MMO, in prep). In each case these adhered to existing plan-level HRA guidance (for example, David Tyldesley and Associates 2009a; 2012) and applied specific screening and assessment methods (developed in consultation with key stakeholders) that were appropriate for the marine environment and marine planning. Drawing upon the guidance and these precedents for strategic marine plan HRA work, the key considerations and actions relevant to the Northern Ireland Marine Plan HRA are provided in Section 2.3.

The methods applied in this HRA will also take account of the lessons learned from and approaches taken during other 'case example' HRAs for sectoral plans. These 'case examples' include the following:

- The Crown Estate's Wave and Tidal Further Leasing (W&TL) plan (ABPmer, 2014);
- The Crown Estate's Offshore Floating Wind Test Sites plan (AMEC, 2013; in prep.);
- The three Draft Sectoral Plans for Wind, Wave and Tidal Energy Generation in Scottish waters (ABPmer, 2013a);
- Draft Plan for Wave and Tidal Energy in Scottish Waters (ABPmer, 2013b);
- Draft Plan for Offshore Wind Energy (OWE) in Scottish Waters (ABPmer, 2011a);
- National Infrastructure Renewables Plan (N-RIP) (ABPmer, 2011b);
- Northern Ireland Offshore Renewable Energy Strategic Plan 2009-2020 (Entec, 2011);
- Pentland Firth Strategic Area (PFSA) Leasing Round (ABPmer, 2010a; b); and
- Habitats Regulations Assessment of the Round 3 Offshore Wind Farm Plan (Entec, 2009a; b).

Of these plans, it is worth highlighting that almost all have followed the same standard principles for plan-level HRA that are proposed for the Northern Ireland Marine Plan HRA. In particular the most recent HRA for The Crown Estate's Wave and Tidal Further Leasing plan (ABPmer, 2014) is especially important because it represents the first HRA for a national scale marine plan. This HRA was the first therefore to involve all the UK administrations and statutory nature conservation bodies (SNCBs) working together to agree and develop the HRA principles. As described above the principles are based around the 13-step process highlighted in the guidance (see Image 1).

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This HRA Pre-Screening Report presents the results of the initial pre-screening stage (Stages 1 to 3 of the plan-level HRA guidance). The purpose of the initial pre-screening is to very broadly identify the sites that will need to be considered within the subsequent 'screening' stage of the HRA process. This Pre-Screening Report also presents the proposed methods for undertaking the subsequent screening stage (Stage 4 of the plan-level HRA guidance).

These methods, in particular, are presented so that they can be discussed and agreed with key stakeholders. For coastal and offshore plans, Stage 4 of the plan-level HRA guidance is often particularly vital as it sets the context for how the assessment progresses and how ultimately, it presents a clear and auditable mechanism for both the assessment conclusions and the implementation of the Plan.

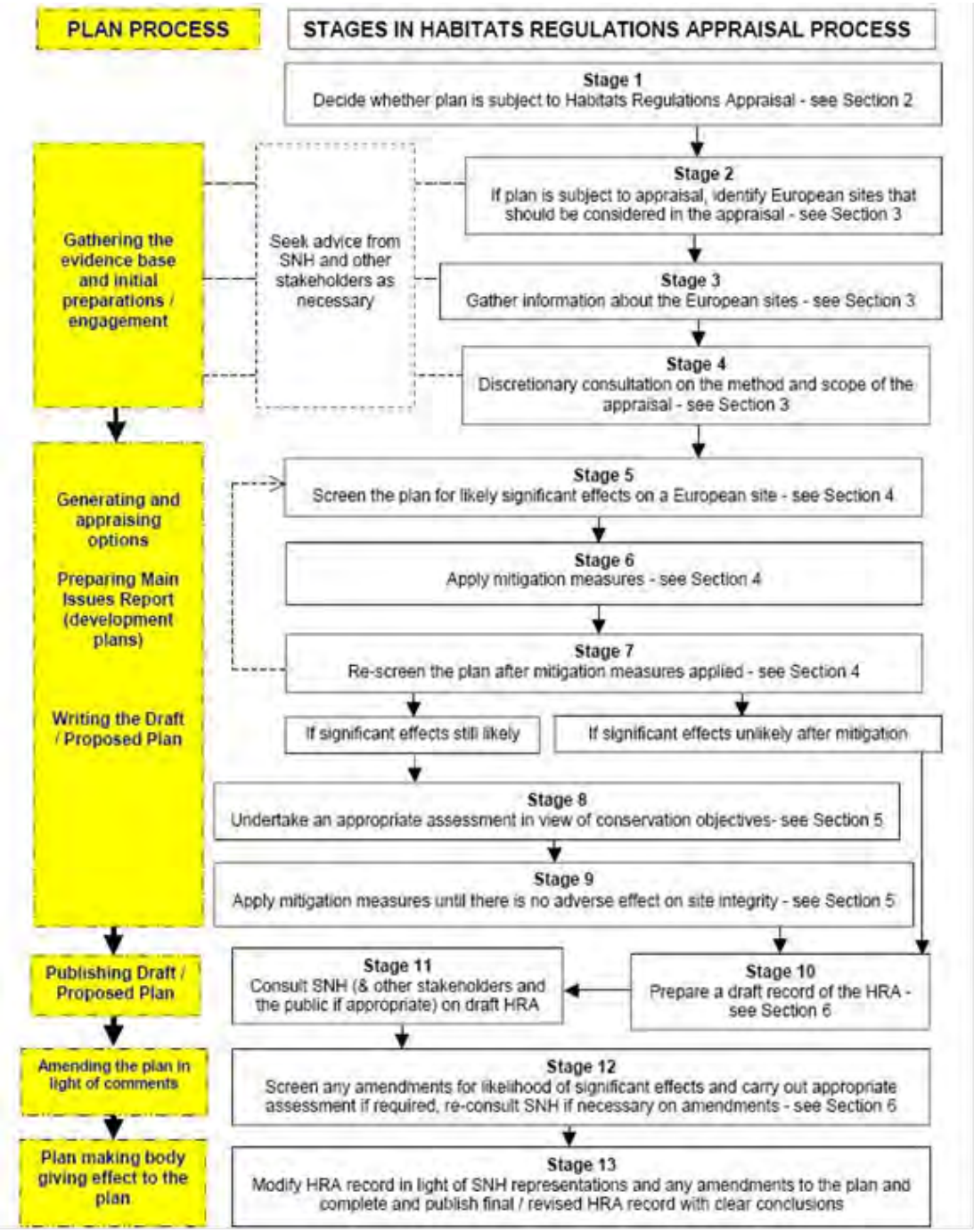

Image 1 – Stages of the HRA Processes for Plans (Source: David Tyldesley and Associates, 2012)

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2.3 Key Considerations and Actions Relevant to Marine Plan HRA

Following a review of available guidance that was undertaken for the English East marine plans HRA (MMO, 2013) and English South marine plans (MMO, in prep.), it is recognised that, when assessing the plan policies, there will not be a need to assess those existing plans for which a plan-level HRA has already been undertaken (although they would need to be assessed as part of the in-combination assessment). In other words there is no need to re-assess activities that have already been assessed. The exception would be where there has been a further definition of, or change to, existing and assessed proposals. In such a case then these would need to be assessed within the HRA of the Plan.

Necessarily, where there is no equivalent plan, and no HRA has been undertaken, it would be appropriate to consider activities which the marine plan influences within this HRA of the Plan. In addition, given the broad nature of marine plans, in-combination effects are unlikely to be sufficiently addressed in any existing HRA, and will generally need to be assessed at a plan scale within the HRA of the Plan.

Also, based on previously agreed principles adopted for the English East marine plans HRA (MMO, 2013) it will not be necessary to appraise 'criteria-based' policies or other general policy statements that have no spatially definable aspect[3] . This is because even though such general policies "*may promote or encourage changes, which in theory could affect a European site, they only express the tests or expectations of the plan making authority when it comes to consider particular proposals [and they] can be screened out at an early stage because they will not have a significant effect on a European site*" (David Tyldesley and Associates, 2009a). Therefore, the appraisal can discount these general policies and focus on those policies with a definable spatial component.

The key considerations and actions that will help to support the overall HRA are summarised in Table 1. Further details and guidance about the proposed approach are presented in the Section 4.1 (and Image 2).

Table 1 – Considerations and Actions Relevant to Marine Plan HRA

Consideration	Action
1. Whether, and how, plan policy will be materially influenced by any existing sectoral plans or projects so that: a. Existing plans for which a plan-level HRA has already been undertaken but which are not influenced by the marine plan do not need to be assessed as part of the plan, although they will need to be assessed as part of the in-combination assessment; and b. Only material changes will be assessed (see also Point 2 in this table and Section 4.1 for further detail).	Review the marine plan policies in consultation with relevant stakeholders to clearly identify and exclude general or criteria-based policies, while selecting and assessing those which will materially influence existing sectoral plans or projects.
2. The identification and exclusion of general or criteria-based policies so that the assessment can focus on policies with a spatially definable component.	
3. How existing sectoral plans will fit into the plan implementation hierarchy.	Assess only those sectoral plans for which a HRA does not already exist.
4. How the Plan itself will be implemented to address in-combination issues.	Present further details on how in-combination issues will be addressed within the Appropriate Assessment Information Report that will follow the screening process.
5. The framing of any relevant plan policies should be such that inclusion of a project within a plan is not a sufficient ground for an IROPI case.	Address the issue of IROPI within the Plan in terms of the Plan's intended use as a decision making document.

3 One example of such a policy is "*Proposals that provide economic productivity benefits which are additional to Gross Value Added currently generated by existing activities should be supported*".

3 Pre-Screening Approach and Results

3.1 HRA Stage 1: Deciding Whether the Plan is Subject to a HRA

In order to decide whether the Plan should be subject to an HRA, it was necessary to consider the questions that are set out in Table 2.

Table 2 – Is the Plan Subject to HRA?

Questions to Decide if a HRA is Required		Yes/No	Outcome
1.	Is the whole of the Plan directly connected with and necessary to the management of a European site for nature conservation purposes	No	Go to question 2
2.	Is the Plan a 'strategic development plan' or 'local development plan' or 'supplementary guidance' (regulation 85A), or a core path plan (regulation 69A) or a revision thereof?	Yes	DoE should proceed to identify the European/Ramsar sites that may potentially be affected, gather the information about them and 'screen' the plan for LSE
3.	Does the Plan provide a framework for deciding applications for project consents and / or does it influence decision makers on the outcome of applications for project consents?	Yes	
4.	Does the Plan contain a programme, or policies, or proposals which could affect one or more particular European sites?	Maybe	
5.	Is the Plan a general statement of policy showing only the general political will or intention of the plan-making body, and no effect on any particular European site can reasonably be predicted?	No	

(Source: Adapted from Figure 3 in SNH Guidance (David Tyldesley and Associates, 2012))

Given the answers to the questions posed in Table 2 (i.e. that the Plan is not just for conservation management and has the potential to affect one or more European/Ramsar sites) there may be a requirement for an HRA, subject to the screening of plan policies (see Sections 2.3 and 4.1). The next stages of the HRA are to identify the European/Ramsar sites that may potentially be affected, gather the information about them and 'screen' for the likelihood of significant effects.

3.2 HRA Stage 2: Identify European/Ramsar Sites That Should be Considered in the Appraisal

Stage 2 of the plan-level HRA guidance involved identifying the locations of European/Ramsar sites within and around UK. A 100 kilometre (km) buffer zone was drawn around the Plan area, and the designated European/Ramsar sites within that buffer were identified. The latest GIS mapping layers for designated and proposed European/Ramsar sites in the UK were sourced from JNCC in January 2014 and for Non-UK sites (i.e. Republic of Ireland, RoI) from March 2014. These sites will be taken forward to the screening stage. The position of the 100km buffer zone relative to the Plan area is shown in Figure 1. The distribution of all the UK and non-UK sites and their positions relative to the Plan area are shown on Figure 2.

A 100km buffer was used because it is deemed to be a quantified and objective area that is likely to encompass many of the mobile species interest features (fish, seabirds and marine mammals) within designated sites that could be indirectly affected by the Plan. However, it has not been used to limit further review of more distant locations or to presume that all relevant features within this area, for which impact pathways exists, are necessarily affected. In particular, it is recognised that impacts (especially to migratory and foraging bird and cetacean species) may extend to sites beyond this 100km buffer and this aspect will need to be considered throughout the whole HRA process.

During the subsequent screening stage, some of these sites within this 100km buffer zone may well be 'screened out' because there can be no effect from the Plan (e.g. terrestrial sites with no ecological connectivity to the marine environment, see Section 4.2). However, at this stage, no attempt has been made to refine the list of sites on the basis of the species or habitats for which they are designated at this pre-screening stage. The methods for site screening (Stage 4 of the plan-level HRA guidance) are based on past plan-level HRA precedents (see Section 2.2) and are defined in detail in Section 4.

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3.3 HRA Stage 3: Gather Information About the European/Ramsar Sites

For the next stage in the pre-screening process, information on the qualifying interest features of the 'screened in' European/Ramsar sites was collated. Table A1 in Appendix A lists all of the European/Ramsar sites present within the 100km buffer zone for the Plan area, and details their qualifying interests (including non-coastal terrestrial habitats and species). This table includes those sites located within the 100km buffer zone that lie beyond UK waters. In total, 345 sites (184 UK sites and 161 RoI sites) were identified as requiring further consideration in the screening phase of the HRA. For each of the relevant European/Ramsar site designations, the following numbers of UK and Non-UK sites were identified and then screened in:

- SPAs: 98 sites were screened in;
- SACs, cSACs and SCIs: 201 sites were screened in; and
- Ramsar: 46 sites were screened in.

During the screening stage of the HRA process it will be necessary to determine whether the policies within Plan will have a 'likely significant effect' (LSE) on the screened in European/Ramsar sites and their interest features. Given the need for a high level of certainty to meet Habitats Regulations requirements there will be a presumption during screening and throughout the HRA process that sites and interest features listed within Table A1 in Appendix A will be 'screened into' the assessment unless a definitive judgement of no LSE can be made, in which case they will be excluded from the process.

4 Screening Methods

This section presents a clear description of the proposed approach for undertaking the screening stages of the HRA process for the Plan (i.e. in fulfilment of Stages 5 to 7 of the plan-level HRA guidance, see Image 1). This methodology draws upon the principles set out in past plan-level HRAs (as listed in Section 2.2), whilst recognising the lessons learned and new techniques being developed over time. Based on past-precedents, it is proposed that the screening will comprise two key stages: a 'policy' screening followed, if required, by an 'ecological' screening process.

4.1 Phase 1: Policy Screening

The policy review that was presented in Section 2.3 sets out the key principles and issues that are pertinent to this HRA as informed by available guidance and lessons learnt from the East marine plans HRA (MMO, 2013). Based on these principles, a policy screening and assessment framework is shown in flow diagram form in Image 2.

This first part of this flow diagram describes the approach that will need to be taken to screen the draft plan policies and identify those which need to be assessed. In essence there is a three stage process in which the following three 'Screening Criteria' questions will be asked sequentially:

- **Screening Criterion 1**: Is the policy general or 'criteria-based' such that it has no specific spatially-definable implications for activities (i.e. it does not direct, influence or clarify the nature and location of activities) within the Plan area?

- **Screening Criterion 2**: Has the policy been subject to previous HRA (e.g. encapsulated within a Sectoral Plan such as the Northern Ireland Offshore Renewable Energy Strategic Plan 2009-2020) and is that HRA still valid (i.e. has there been a further change to proposals as originally assessed)?

- **Screening Criterion 3**: Does the policy change what was previously assessed or bring greater clarity to elements such as the location of cable alignments or landfalls?

Each of the policies that identify discrete areas where distinct activities will, or may take place as a consequence of the Plan (but for which no sectoral plan HRA has been undertaken) will need to be screened into the assessment. Each of these 'areas under review' will need to be mapped and presented within the Plan. These areas will underpin the screening and assessment stages of the HRA. Further details about the approach that will be taken to assess the impacts of any 'screened in' policies on the relevant interest features and European/Ramsar sites are presented in the Section 4.2. If, however, none of the plan policies meet the above screening criteria then there is no need to proceed to the next stages of the HRA (i.e. ecological screening or assessment).

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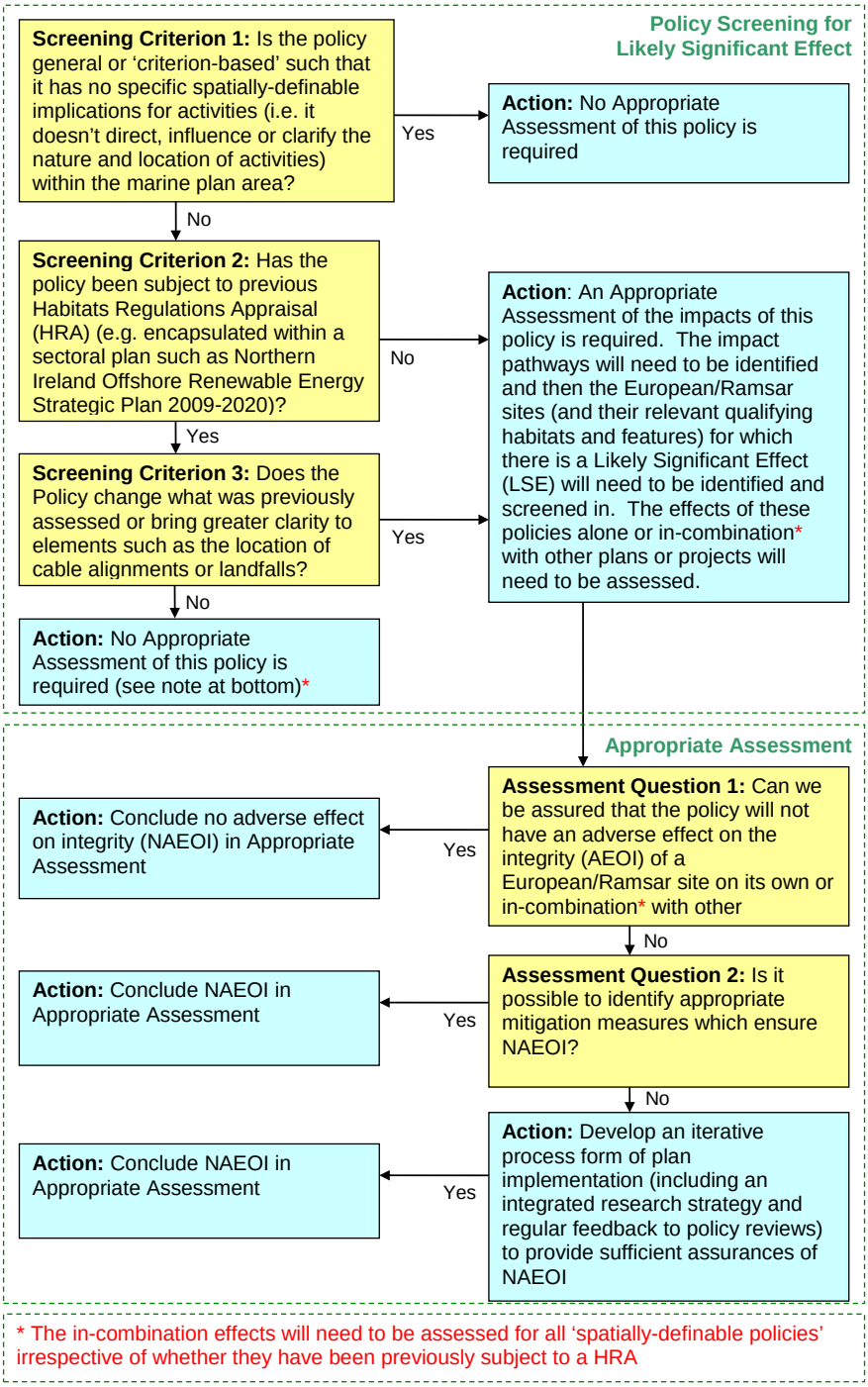

Image 2 – Policy Screening and Assessment Process (Source ABPmer for MMO, 2013)

4.2 Phase 2: Ecological Screening

The ecological screening, if required, will involve reviewing and then screening either in or out all the relevant European/Ramsar sites and associated qualifying interest features for which there could be LSE (or the potential for LSE cannot be excluded) as a result of the policies that have been screened into the assessment. This stage will not be required if none of the plan policies meet the defined screening criteria for further assessment (Section 4.1).

Ecological screening will include reviewing sites that lie within the Plan area and the 100km buffer zone that was identified at pre-screening, as well sites beyond the 100km buffer that support highly mobile species which use or traverse across the Plan area. In broad terms, this will include the following key interest feature groups of habitats and species[4]:

- Habitats and associated species;
- Birds;
- Marine mammals (cetaceans and seals);
- Migratory fish and freshwater pearl mussel;
- Otters; and
- Bats.

The proposed screening methods for each interest feature group are outlined in Sections 4.2.1 to 4.2.5.

It is important to note that following the policy screening work, these ecological screening methods will only need to be applied to those defined areas of the seabed where activities will occur from screened-in policies (see Section 4.1). Therefore, these ecological screening methods do not necessarily need to be applied to the whole of the Plan area unless there is a relevant policy that applies across that full extent which needs to be assessed.

4.2.1 Habitats and Associated Species

The screening methods for this interest feature group need to consider the potential for both direct and indirect LSEs on habitats and associated non-mobile[5] species. The first step will therefore be to screen out (i.e. remove from the pre-screening list, Table A1 in Appendix A) terrestrial/ freshwater habitats and associated species interest features for which there will be no LSE on the basis that there is definitely no impact pathway (i.e. no potential physical or ecological connectivity with any marine activities that might be influenced by the Plan).

Terrestrial features screened out by this first step will include woodland, peatlands, heaths and bogs, as well as species associated with such terrestrial habitats e.g. snail species. Freshwater habitats and species screened out by this step will include water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*, alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* and floating water-plantain.

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4 This assessment will focus on addressing qualifying interest features of European/Ramsar sites but it should also be noted that it is also an offence to deliberately capture, injure, kill or disturb any wild animal of a European Protected Species (EPS) such as Harbour Porpoise and other cetaceans under the Habitats Regulations. Such offences are not considered within the HRA process but it is noted that guidance on the protection of marine EPS in their natural range from injury and disturbance has been developed by JNCC *et al.* (2010) as required by Article 12 of the Habitats Directive.

5 Some habitats will have 'typical' species associated with them that are mobile but not 'highly' mobile, (for example, certain fish or larvae).

Non-migratory freshwater species will also be screened out, including great crested newts, white-clawed (or Atlantic stream) crayfish, and brook lamprey. However, freshwater pearl mussel will be screened in because it has a life cycle connection with Atlantic salmon (see Section 4.2.4).

The next step will be to screen in (i.e. retain from the pre-screening list, Table A1) all marine habitat features and associated species that lie within the Plan area because, clearly, they may be directly or indirectly affected by activities undertaken within the Plan boundaries.

In addition, it is recognised that activities within the areas under review may have an indirect effect on habitat features and associated species just outside the boundaries (e.g. from hydrodynamic and/or sediment transport changes). To identify the external European/Ramsar sites outside these areas for which there could be such potential indirect effect, the results from a previously run UK-wide hydrodynamic model[6] (as illustrated in Image 3) will be used to help determine the area of sea located within one tidal excursion of the boundaries of the areas under review.

This approach will be adopted because the nature of the tide is such that its movement is typically described as an almost closed ellipse. These ellipses can be viewed as a package of water that will move to and fro over one tidal cycle, typically along a dominant axis, returning to almost the same position. As such, they can also be used to identify the maximum likely distance that water, or any material suspensions or solutions it may contain, might be tidally transported from a given location or area. Evidence from plume studies indicates that even fine particles mobilised from the seabed settle out again to a large extent within the distance of one tidal excursion.

For the screening process, the ellipses will be mapped and those ellipses that lie closest to the boundary of the areas under review will be selected and will then be 'moved' on the map to touch the nearest boundary point of those areas under review. This will result in each discrete area under review having a series of ellipses around its boundary. To then determine how far, and in which direction, a parcel of water will move from this boundary edge and then return, a line will be drawn between the furthest limit of each of these tidal ellipses. This new line will define a zone for screening habitat features and associated species that could be potentially indirectly affected by policies within the Plan. The average distance over which there could be a potential indirect effect, as defined by an average tidal ellipse, is around 10-15km (Image 3).

6 This is the analysed outputs of a 3D tidal computer model previously used to inform the UK Atlas of Renewable Energy Resource (http://www.renewables-atlas.info). The underlying model is the 'High Resolution Continental Shelf' (HRCS) model, owned and operated by the Proudman Oceanographic Laboratory (POL, now part of the National Oceanography Centre). The model results describe flow speed and direction at a relatively high spatial resolution and over a long time period. The same model has been applied for most previous marine Plan HRAs (e.g. ABPmer, 2013a; b; 2014; MMO, 2013; in prep.).

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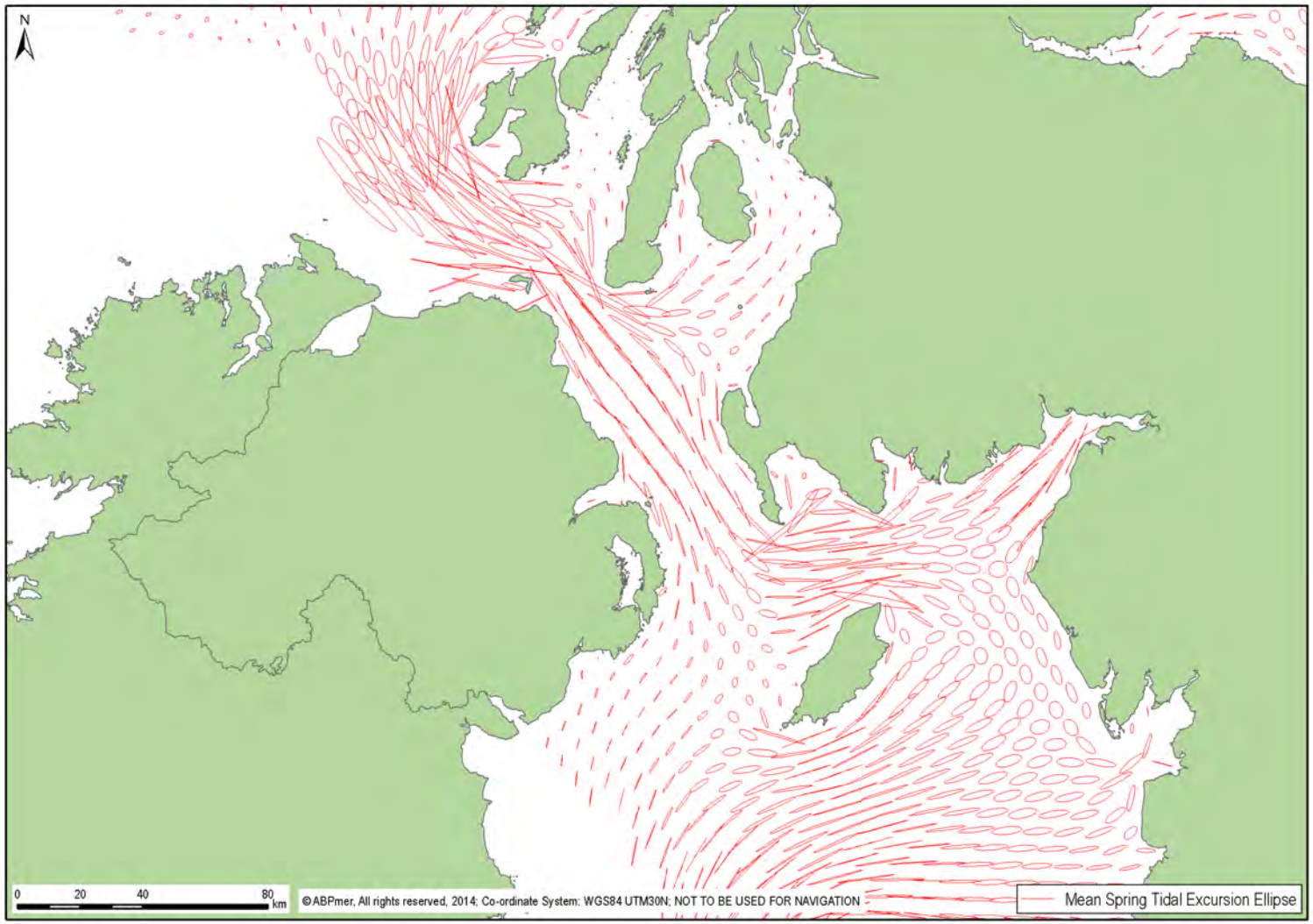

Image 3 - The Extent of Tidal Ellipse Distances Available for the Northern Ireland Coastline and Surrounding Area (Source: UK Atlas of Renewable Energy Resource)

It is also recognised that there will be potential for the terrestrial/freshwater European/Ramsar sites located on the coast beyond the plan's mean high water spring tide to be affected by developments and activities such as cable/pipeline landfall locations, landside infrastructure and activities linked to construction and maintenance. Effects on these terrestrial/freshwater sites could also result from activities which change the sediment dynamics (e.g. affecting sand dunes) or implement coastal realignment. It will therefore be necessary to screen in (i.e. retain from the pre-screening list, Appendix A) any terrestrial/freshwater sites that have a feature in close proximity to the coastal boundary of the Plan. No further assessment can be made at this stage on peripheral terrestrial and freshwater sites given that plan policies have not yet been defined. This aspect will need to be considered further in the following screening and assessment phases of the HRA.

To summarise the approach described above, the following iterative series of steps encompass the proposed screening methods for the habitat and associated species interest feature groups:

- **Step 1**: Identify possible developments or activities (including possible cable/pipeline landfall positions and landside infrastructure) that could be influenced by plan policies and define their locations within the extent of the Plan as discrete areas under review;

- **Step 2**: Screen out (i.e. remove from the pre-screening list Appendix A) all European/Ramsar sites supporting terrestrial/freshwater habitats and non-mobile species interest features for which there will be no LSE on the basis that there is definitely no impact pathway;

- **Step 3**: Screen in (i.e. retain in the pre-screening list in Appendix A) all European/Ramsar sites supporting marine/coastal habitats and non-mobile species interest features, recognising that these will include prey species for mobile birds, fish and marine mammals, that overlap with the areas under review and will therefore be directly affected;

- **Step 4**: Undertake a review of tidal excursion patterns and draw a new boundary at a distance of one tidal excursion from the boundaries of the areas under review;

- **Step 5**: Screen in all European/Ramsar sites supporting marine/coastal habitats and non-mobile species interest features that could be indirectly affected because they lie at distances of less than one tidal ellipse from the areas under review;

- **Step 6**: Screen out all European/Ramsar sites supporting marine/coastal habitats and non-mobile species interest features that lie beyond one tidal ellipse boundary of the areas under review and will definitely not be affected indirectly by changes to the hydrodynamic and sediment regime;

- **Step 7**: Produce a screening table (i.e. update the pre-screening list in Appendix A based on the previous steps) to indicate the European/Ramsar sites and supporting terrestrial, freshwater, coastal and marine habitat and non-mobile species interest features that have been screened in or out of the assessment. Produce accompanying maps of screened in European/Ramsar sites within and adjacent to the Plan area and the individual areas under review;

- **Step 8**: Identify any plan-level mitigation measures that can be applied to ensure that there is no LSE on the screened in European/Ramsar sites and their qualifying interest features and, where possible, screen such features or sites out on this basis; and

- **Step 9**: Update the screening table and maps with the final list of screened in European/Ramsar sites and qualifying interest features.

4.2.2 Birds

The screening methods for this interest feature group need to consider the potential LSE from both direct and indirect sources of change. The first step will therefore be to screen out (i.e. remove from the pre-screening list, Table A1 in Appendix A) a number

of bird qualifying interests on the basis that there would be no impact pathway associated with policies in the Plan. These are birds which are entirely resident within inland terrestrial habitats, do not forage at sea or migrate over marine water bodies and do not migrate internationally. The only bird interest feature that falls within these criteria within 100km of the Plan area is Chough.

A number of bird species that are qualifying interests of SPAs as breeding populations only will also be screened out. These bird species are Hen Harrier, Merlin, Peregrine, Grey Heron, Little Stint, Curlew, Sandpiper and Short-eared Owl). These species will however be screened in (i.e. retained in the pre-screening list, Table A1 in Appendix A) where they are roosting and/or wintering qualifying interests of the relevant European/Ramsar sites because there could be a movement of birds outside the SPAs[7] .

For breeding and resident populations of Golden Eagle, these will be screened in where they are qualifying features of coastal European/Ramsar sites (due to potential effects on foraging, prey and/or from disturbance). They will be screened out where they are features of inland European/Ramsar sites in which case there will be no LSE.

The next step will be to consider the foraging behaviour of coastal and offshore bird colonies (whether these are overwintering or breeding populations) to identify SPAs lying outside of the 100km buffer which might be affected and therefore need to be screened into the assessment (i.e. added to the pre-screening list, Table A1 in Appendix A). It is known that most birds typically forage within 100km of breeding sites and these will therefore already be included. However, there are species that forage over greater distances and could be affected even though they lie outside the 100km buffer zone.

To understand which birds forage over these greater distances and thus which additional European/Ramsar sites need to be screened in, the latest data and reviews on this subject will be considered. One valuable source of information is The Future of the Atlantic Marine Environment (FAME) project which is a large-scale tagging exercise being undertaken by the Royal Society for the Protection of Birds (RSPB) to identify the foraging behaviour, direction and distances of seabirds from breeding colonies. A study of the foraging ranges of 25 species of UK seabirds has also recently been published by the British Trust for Ornithology (BTO), RSPB and Birdlife International (Thaxter et al., 2012).

From this information, the following species are confirmed as potentially having foraging distances of greater than 100km:

- Northern Fulmar (400km);
- Northern Gannet (229km);
- Lesser Black-Backed Gull (141km);
- Atlantic Puffin (105km); and
- Manx Shearwater (330km).

In each case the ‘mean maximum’ foraging distances are provided in brackets. This distance is defined as the maximum range reported by individual studies averaged across studies (Thaxter et al., 2012). For past plan-level HRAs, the maximum foraging distances by individual birds recorded from all studies has generally used (e.g. MMO, 2013). However, for a recent national plan-level HRA (ABPmer, 2014), it was agreed with Statutory Nature Conservation Bodies (SNCBs) from each of the four UK devolved administrations that the ‘mean maximum’ distances provide a more relevant but still sufficiently precautionary approach and for this reason this approach is proposed to be used for the Plan HRA. It should be noted that the HRA that is being undertaken for The Crown Estate’s Offshore Floating Wind Plan (AMEC, in prep.) has proposed to use the mean maximum foraging range of Northern Fulmar (400km) as a worst case screening buffer for all breeding bird populations. However, this plan-level HRA is only for a small number of development sites in Scotland and for this reason the advice that has been provided by all the UK SNCBs for The Crown Estate’s Wave and Tidal Further Leasing Plan in ABPmer (2014) is considered more appropriate in this case.

7 This screening principle was identified as part of the Scottish Draft OWE plan (ABPmer 2011a) and has been retained within subsequent plan-level HRAs (ABPmer, 2013a; b; 2014; MMO 2013; in prep.).

Although foraging distances are fairly well understood, less information is available to indicate foraging directions and it is known that they can be very variable. Based on evidence from recent FAME data, seabirds could potentially travel over large tracts of land when foraging. It is therefore not possible to assume, as has been done in the previous national plan-level HRA for The Crown Estate's Wave and Tidal Further Leasing plan (ABPmer, 2014), that seabirds will not travel across significant land masses (greater than 50km) when foraging over long distances. Any SPAs for long-distance foraging bird interest features occurring outside of the 100km buffer will therefore be screened in, regardless of a minimum landmass distance of 50km. In this way, for example, any designated gull features which nest on the East coast of the UK will be screened in on the basis that they could potentially forage in the Plan area.

Following the approach applied in past plan-level HRAs, non-UK sites beyond the 100km buffer will not be screened into the assessment. This is on the basis that, having included all the bird qualifying features affected across the defined 100km area during the pre-screening, there is not expected to be any additional LSE to birds in sites from other Member States. It is recognised however that there are some qualifying bird species within Member State's sites which are not also a qualifying species for UK sites and which could forage and/or migrate internationally.

These include the following Annex I species:

- **Cory's Shearwater**. This species' range includes the Mediterranean and outposts in the Atlantic such as the Canary Islands. However, its distribution does not cover the UK or English Channel (BirdLife, 2014a);

- **Smew**. The distribution of this species mainly covers central and eastern parts of Europe. This species is on the 'Amber' list and is considered to be of 'Least Concern' (BirldLife, 2014b; RSPB, 2014a; b). It migrates overwinter in small numbers from Scandinavia and Russia and on occasion from Holland and Denmark to escape freezing weather there (RSPB, 2014a). Their flight paths are, therefore, unlikely to overlap with the boundaries of the Plan;

- **White-tailed Eagle**. This rare breeding bird is on the 'Red' list and was made extinct in the UK during the early twentieth century. The present population is confined to the east coast of Scotland where a reintroduction programme is taking place (RSPB, 2014c); and

- **Common crane**. Small numbers of this species pass mainly through southern and eastern parts of Britain in spring and autumn, and there is a tiny breeding population in eastern England (RSPB, 2014d). It is mainly found on inland freshwater wetland habitats. This species is on the 'Amber' list and is considered to be of 'Least Concern' (BirldLife, 2014c; RSPB, 2014d).

While these species are not qualifying interest features in the UK, based on the above outline review of their distribution and behaviour there is not expected to be any LSE on these species from policies within the Plan. Most of the species are unlikely to overlap with the effects brought about by the Plan and any 'outlier' species are anticipated to only be present in low numbers. It is also recognised that by adopting the established broad screening process described in this section, the HRA process will ensure that there are no adverse effects on a full range of bird species exhibiting a full range of at sea movements and foraging behaviours (i.e. surface feeders, divers, nocturnal, crepuscular, long distance, coastal and offshore).

The possible impact on breeding seabird interest features outside of the breeding season has also been considered. All breeding seabird features within 100km of the boundary of areas of interest have been screened into this HRA. As explained above, for those species that forage greater distances than 100km, the mean/max foraging radii have been used as a screening buffer. Given the uncertainty about areas used by SPA breeding seabird features during the non-breeding winter months, it is considered that these buffers are suitably precautionary at the plan-level to include the potential areas used by breeding seabird features during non-breeding seasons. In February 2013 a briefing note was produced by JNCC and Natural England to help developers and regulators deal with this issue in relation to offshore wind (JNCC & NE, 2013). This advice represents the JNCC and Natural England's current thinking in relation to screening of seabird species from breeding colony SPAs into project-level

HRAs in the non-breeding season. The suggested screening approach in the briefing note is considered to be more appropriate for project-level HRAs when more baseline information is available on species' distributions and population sizes in order to reasonably estimate biologically defined minimum population scales during the non-breeding season (JNCC & NE, 2013).

To summarise the approach described above, the following iterative series of steps encompass the proposed screening methods for the bird interest feature group:

- **Step 1**: Identify possible developments or activities (including possible cable/pipeline landfall positions and landside infrastructure) that could be influenced by plan policies and define their locations within the extent of the Plan as discrete areas under review;

- **Step 2**: Screen out (i.e. remove from the pre-screening list) any bird interest features for which there will be no LSE on the basis that there is definitely no impact pathway (e.g. where they are confined to inland terrestrial habitats and do not forage in coastal or offshore waters);

- **Step 3**: Screen in (i.e. add to the pre-screening list) all European/Ramsar sites supporting bird interest features that have mean maximum foraging distances greater than 100km and could potentially feed within the areas under review. This will screen in some European/Ramsar sites that support these species but lie outside the 100km boundary zone. Non-UK sites will not be considered in this case because there is not expected to be any additional effect to qualifying birds species from other Member States;

- **Step 4**: Screen out any European/Ramsar sites supporting long distance foraging qualifying bird interest features that have a landmass greater than 50km between them and the areas under review;

- **Step 5**: Update the screening table (see Step 7 for habitat interest features in Section 4.2.1) to indicate the European/Ramsar sites and supporting bird interest features that have been screened in or out of the assessment. Update the accompanying maps of screened in European/Ramsar sites within and adjacent to the Plan area and the individual areas under review;

- **Step 6**: Identify any plan-level mitigation measures that can be applied to ensure that there is no LSE on the screened in European/Ramsar sites and their qualifying interest features and, where possible, screen such features or sites out on this basis; and

- **Step 7**: Update the screening table and maps with the final list of screened in European/Ramsar sites and qualifying interest features.

4.2.3 Marine Mammals (Cetaceans and Seals)

The screening methods for this interest feature group need to consider the potential LSE from both direct and indirect sources of change. For this HRA it will be necessary to consider the effects on grey seal (*Halichoerus grypus*), common seal (*Phoca vitulina*), bottlenose dolphin (*Tursiops truncatus*) and harbour porpoise (*Phocoena phocoena*). These are the four species which are qualifying interest features of UK SACs and of SACs in other EU member states.

A 100km buffer has been used for pinnipeds in the majority of past plan-level HRAs (e.g. ABPmer, 2013a; b; 2014; MMO, 2013). Tracking of individual seals has shown that they can feed up to several hundred kilometres offshore, with foraging trips lasting between 1-30 days, although most foraging probably occurs within 100km of a haul out site (SCOS, 2013). Therefore, movements within 100km were considered to define the main foraging areas of seals. The HRA for The Crown Estate's Offshore Floating Wind Plan (AMEC, in prep.), on the other hand, agreed in consultation with Scottish Natural Heritage (SNH) to use a 50km screening buffer for common seal and a 100km buffer for grey seal. Following advice from DoE Marine Division and Natural Resources Wales (NRW), however, the management units that have been developed for seals by the UK Inter-Agency Marine Mammals Working Group (2013), and which have now been agreed by the Chief Scientists, are considered to be more

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appropriate, particularly with respect to assessing cumulative effects on the biogeographical population. For this HRA, therefore, all European/Ramsar sites that have qualifying features of either grey seal or common seal within the 'Northern Ireland', 'West Scotland c', 'Southwest Scotland' and 'South and West England, and Wales' management units (see Image 4) will be screened into the assessment (i.e. added to the pre-screening list, Table A1 in Appendix A). Please note that this is a considerably larger area than 100km, extending from West Scotland to East Sussex.

Image 4 - Seal Management Units. The seaward extent of these MUs is illustrative and not definitive as seals will cross it on a regular basis (Source: UK Inter-Agency Marine Mammal Working Group, 2013)

Bottlenose dolphins migrate and forage over much larger distances than seals and it will be necessary to extend the assessment beyond the 100km buffer to screen in more distant European/Ramsar sites. There is potential connectivity between bottlenose dolphins on the Northern Irish coast and the west coast of Scotland (Robinson et al, 2012). All European/Ramsar sites that have qualifying features of this species within the Irish Sea (IS), Coastal West Scotland and Hebrides (CWSH), Connemara-Mayo (CM) and Oceanic Waters (OW) management units proposed by the UK Inter-Agency Marine Mammal Working Group (2013, Image 5) will therefore be screened into the assessment (i.e. added to the pre-screening list, Table A1 in Appendix A). Non-UK sites will also be screened in where they lie within these relevant management units. This follows the approach that was applied in the most recent plan-level HRA (ABPmer, 2014).

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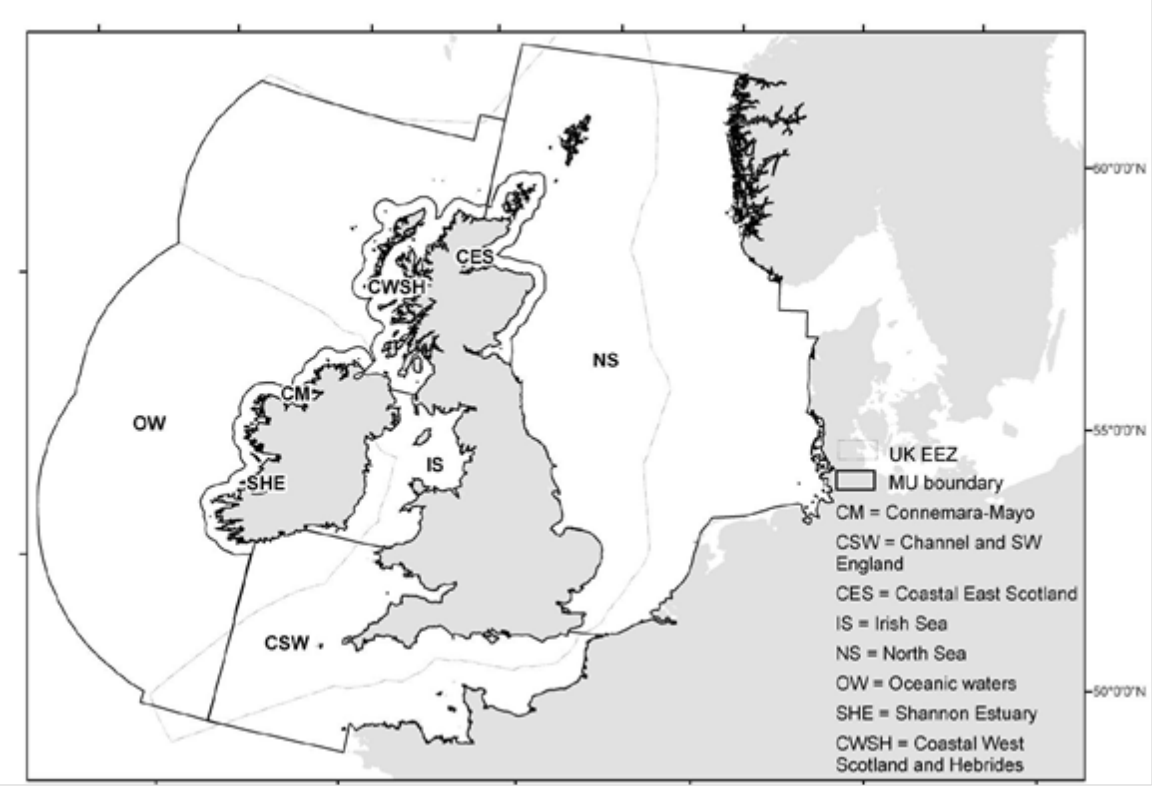

Image 5 - Bottlenose Dolphin Management Units. (Source: UK Inter-Agency Marine Mammal Working Group, 2013)

In general harbour porpoise is wider ranging and it is known, for instance, from tagging work that individuals move from the Skagerrak across the North Sea (Teilmann et al., 2008). European/Ramsar sites that have qualifying harbour porpoise interest features that lie within the Celtic and Irish Seas (CIS) and West Scotland (WS) management units defined for this species by the UK Inter-Agency Marine Mammal Working Group (2013, Image 6) will be screened into the assessment on the basis that the Plan area overlaps with both these management units (i.e. added to the pre-screening list, Table A1 in Appendix A). This will include Non-UK sites because of the long foraging and migratory distances covered by this species and, also, because the argument applied in respect of long-distance foraging seabird species in Non-UK sites (see Section 4.2.2) may not apply for harbour porpoise because until recently this species was not a qualifying species for any European/Ramsar UK sites and is currently only a qualifying species at one SAC site (Skerries and Causeway SCI which is within the Plan area). This follows the approach that was applied in the most recent plan-level HRA for The Crown Estate's Wave and Tidal Further Leasing plan (ABPmer, 2014).

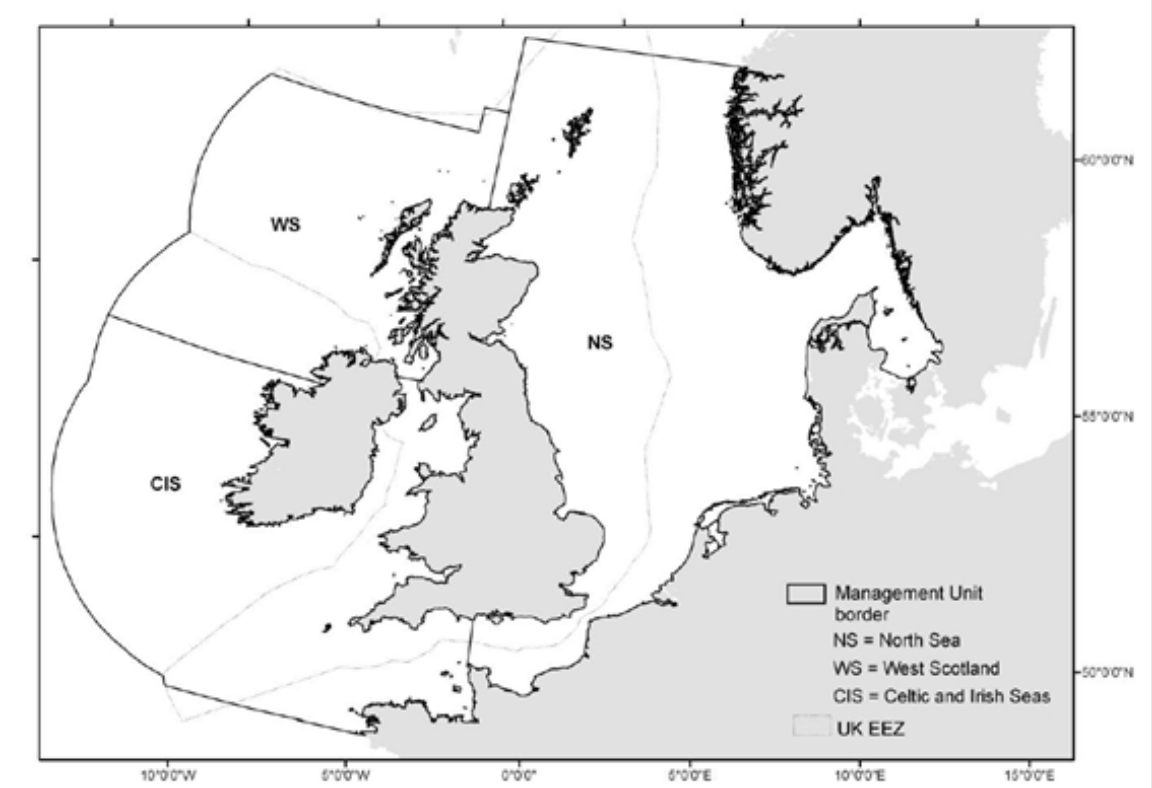

Image 6 - Harbour Porpoise Management Units. (Source: UK Inter-Agency Marine Mammal Working Group, 2013)

To summarise the approach described above, the following iterative series of steps encompass the proposed screening methods for the marine mammal interest feature group:

- **Step 1**: Identify possible developments or activities (including possible cable/pipeline landfall positions and landside infrastructure) that could be influenced by plan policies and define their locations within the extent of the Plan as discrete areas under review. In this case for highly mobile marine mammals it may be expedient, depending upon the policies and relevant activity locations, to base the screening on the full extent of the Plan area;

- **Step 2**: Screen in all European/Ramsar sites that have qualifying common or grey seal interest features within the relevant management units proposed for this species by the UK Inter-Agency Marine Mammal Working Group (see above);

- **Step 3**: Screen in all European/Ramsar sites that have qualifying bottlenose dolphin interest features within the relevant management units proposed for this species by the UK Inter-Agency Marine Mammal Working Group (see above) (including Non-UK sites);

- **Step 4**: Screen in all European/Ramsar sites that have qualifying harbour porpoise interest features within the relevant management units proposed for this species by the UK Inter-Agency Marine Mammal Working Group (see above) (including Non-UK sites);

- **Step 5**: Update the screening table (see Step 7 for habitat interest features in Section 4.2.1) to indicate the European/Ramsar sites and supporting marine mammal interest features that have been screened in or out of the assessment. Update the accompanying maps of screened in European/Ramsar sites within and adjacent to the Plan area and the individual areas under review;

- **Step 6**: Identify any plan-level mitigation measures that can be applied to ensure that there is no LSE on the screened in European/Ramsar sites and their qualifying interest features and, where possible, screen such features or sites out on this basis; and

- **Step 7**: Update the screening table and maps with the final list of screened in European/Ramsar sites and qualifying interest features.

4.2.4 Migratory Fish and Freshwater Pearl Mussel

The screening methods for this interest feature group need to consider the potential LSE from both direct and indirect sources of change. Anadromous fish species (i.e. those which live mainly at sea but spawn in freshwater) that could be affected by the Plan include Atlantic salmon, allis shad, twaite shad, sea lamprey and river lamprey. In addition freshwater pearl mussel will be susceptible indirectly because, while they are sessile species living in rivers, they share a life-history stage with migratory salmonids (Atlantic salmon and sea trout). Other migratory fish species that are not listed in Annex 1 of the Habitats Directive but form part of the qualifying criteria of Ramsar sites include the European eel, the European smelt and sea trout. Consideration should also be given to components (i.e. sub-features) of individual qualifying interest features within marine SACs.

While there is a recognition that gaps in understanding clearly remain about how fish migrate around UK waters, based on the latest evidence, the coastal regions of the UK were divided into seven regions by ABPmer (2014) (Image 7). According to these seven regions, the expected primary direction of fish migration through the Plan area to European/Ramsar sites on the UK and Irish coasts (including estuaries and rivers) is from the North West and into the Irish Sea. Therefore all European/Ramsar sites in the ‘West’ region that support migratory fish interest features will be screened into the assessment. This principle, as for all other habitats and species, will be reviewed in the light of any new scientific information and agreed with key stakeholders.

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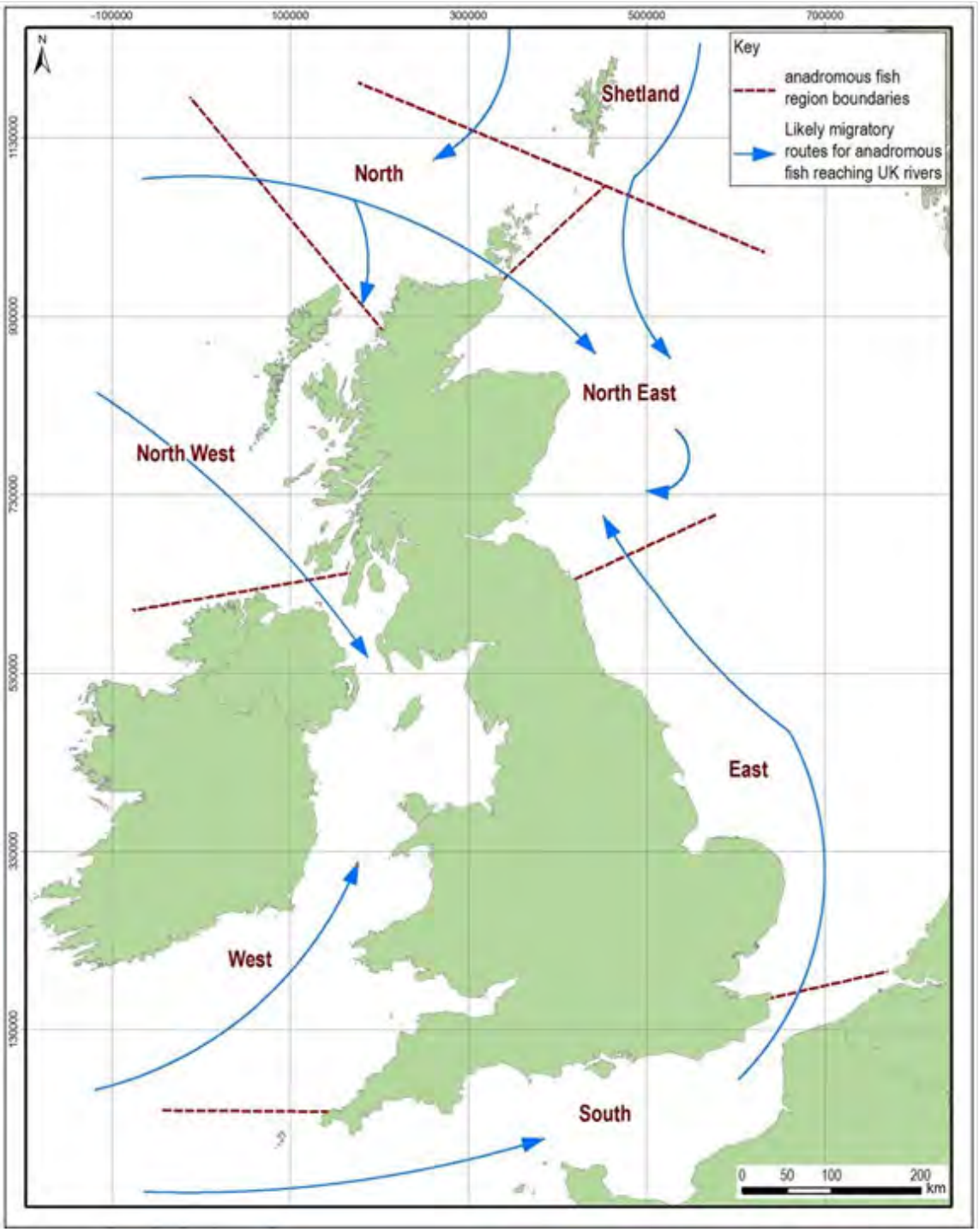

Image 7 - Location and Extent of Coastal Regions Proposed to be Used for Screening Fish Qualifying Interests (Source: ABPmer, 2014)

To summarise the approach described above, the following iterative series of steps encompass the proposed screening methods for the migratory fish and/or freshwater pearl mussel interest feature group:

- **Step 1**: Identify possible developments or activities (including possible cable/pipeline landfall positions and landside infrastructure) that could be influenced by plan policies and define their locations within the extent of the Plan as discrete areas under review. In this case for highly mobile migratory fish it may be expedient, depending upon the policies and relevant activity locations, to base the screening on the full extent of the Plan area;

- **Step 2**: Screen in all European/Ramsar sites supporting migratory fish and/or freshwater pearl mussel interest features along the UK and Republic of Ireland coast (including estuaries and rivers) within the 'West' region (see above);

- **Step 3**: Update the screening table (see Step 7 for habitat interest features in Section 4.2.1) to indicate the European/Ramsar sites and supporting migratory fish and/or freshwater pearl mussel interest features that have been screened in or out of the assessment. Update the accompanying maps of screened in European/Ramsar sites within and adjacent to the Plan area and the individual areas under review;

- **Step 4**: Identify any plan-level mitigation measures that can be applied to ensure that there is no LSE on the screened in European/Ramsar sites and their qualifying interest features and, where possible, screen such features or sites out on this basis; and

- **Step 5**: Update the screening table and maps with the final list of screened in European/Ramsar sites and qualifying interest features.

4.2.5 Otters

The screening methods for this interest feature group need to consider the potential LSE from both direct and indirect sources of change. The distances offshore that foraging occurs are unclear but are unlikely to be beyond water depths of greater than 10m (the depth at which they are identified as being at risk of entanglement in pots/creels). Also while otter can move large distances along riverine habitats (some are known to use 20km or more of river habitat), they also tend to be very territorial. The guidance on undertaking surveys to assess impacts upon this species (SNH, 2014) suggests that distances of 200-250m are appropriate.

Based on past advice and previous HRA approaches (e.g. ABPmer, 2010 a; b; 2011; 2013a; b; 2014; MMO; 2013), 10km represents an appropriate distance beyond which a plan or project would be unlikely to have a significant effect. This 10km buffer will be applied around the boundary of the areas under review and any European/Ramsar sites (either coastal or inland) that support otter beyond this buffer will be screened out of the assessment (i.e. removed from the pre-screening table).

It is recognised that there will be potential for any inland European/Ramsar sites supporting otter interest features to be affected where they occur, for example, in the vicinity of any proposed cable/pipeline landfall locations, landside infrastructure and activities linked to construction and maintenance. It will therefore be necessary to screen in any European/Ramsar sites which support the otter interest feature and which are in close proximity to the coastal boundary of the Plan. No further judgement can be made at this stage about the overlap and interaction of landside activities with further inland European/Ramsar sites that support otter interest features given that policies have not yet been defined as part of the Plan. This aspect will need to be considered further in the following screening and assessment phases of the HRA.

To summarise the approach described above, the following iterative series of steps encompass the proposed screening methods for the otter interest feature group:

- **Step 1**: Identify possible developments or activities (including possible cable/pipeline landfall positions and landside infrastructure) that could be influenced by plan policies and define their locations within the extent of the Plan area as discrete areas under review;

- **Step 2:** Screen in any European/Ramsar sites and supporting otter interest features that lie within a distance of less than 10km from the areas under review, including cable/pipeline landfall positions, landside infrastructure and activities where known;

- **Step 3**: Screen out all European/Ramsar sites that lie beyond 10km from areas under review including cable/pipeline landfall positions, landside infrastructure and activities where known;

- **Step 4**: Update the screening table (see Step 7 for habitat interest features in Section 4.2.1) to indicate the European/Ramsar sites and supporting otter interest features that have been screened in or out of the assessment. Update the accompanying maps of screened in European/Ramsar sites within and adjacent to the Plan area and the individual areas under review;

- **Step 5**: Identify any plan-level mitigation measures that can be applied to ensure that there is no LSE on the screened in European/Ramsar sites and their qualifying interest features and, where possible, screen such features or sites out on this basis; and

- **Step 6**: Update the screening table and maps with the final list of screened in European/Ramsar sites and qualifying interest features.

4.2.6 Bats

The screening methods for this interest feature group need to consider the potential LSE from both direct and indirect sources of change. There are 15 species of bat listed in Annex I of the Habitats Directive, of which two species are an interest feature of two European/Ramsar sites within the 100km boundary of the Plan (see Table A1, Appendix A). These species are the Lesser horseshoe bat (*Rhinolophus hipposideros*) and the Whiskered Bat (*Myotis mystacinus*).

Lesser horseshoe bats forage close to the ground along the edges of woodland. They feed primarily on midges, moths and craneflies. During the summer their roosts are underground sites, attic and buildings. During the winter they hibernate in underground sites such as small caves, cellars and burrows. They are a relatively sedentary species as the distance between winter and summer roosts are within 5 to 10km (Jacobs et al., 2008).

Whiskered Bat inhabit forest, woodland edge habitat located close to water sources. They are nocturnal and hunt exclusively near inland waters however they feed on non-aquatic flying insects (Hutson et al, 2008). They nest in colonies, mainly in trees, rocks and caves and hibernate during the winter. (Hutson et al, 2008).

One of the European/Ramsar sites that is within 100km buffer of the Plan area is an inland terrestrial site and the other is located in Scotland. Bats are terrestrial species that are unlikely to migrate across the Irish Sea and forage within coastal habitats, therefore based on the ecology and behaviour of these two bat interest features they will be screened out of the process.

5 Summary of Next Stages (Screening and Assessment)

5.1 Pre-Screening

As a result of this pre-screening review, a long list of national and non-UK European/Ramsar sites and their accompanying interest features have been screened into the HRA. A total of 345 European/Ramsar sites were screened in for consideration at the screening stage. These include 98 SPAs, 201 SACs/cSACs/SCIs and 46 Ramsar sites. These sites comprise a range of habitat and species interest features which are described in detail in Appendix A.

5.2 Next Stages

The next stage of the process will involve HRA policy screening and, if required, ecological screening (Stage 5 of the plan-level HRA guidance, see Image 1) following the proposed methods that have been presented in detail in Section 4 of this report. Any specific mitigation measures that have been applied as part of this screening process will be identified (Stages 6 and 7 of the plan-level HRA guidance, see Image 1). The outputs of this screening process and the need to proceed on to the next assessment stage of the HRA will be documented in a Screening Report.

5.3 Assessment

Following screening, the impacts to the screened in European/Ramsar sites and interest features will need to be assessed for those plan policies that meet the defined screening criteria (Stage 8 of the plan-level guidance, see Image 1). The impacts of these screened in policies will also need to be assessed both in-combination with each other and with all spatially-definable policies irrespective of whether they have been previously subject to a HRA. Any additional mitigation measures that are needed to ensure that the Plan will not have an adverse effect on the integrity of any European/Ramsar sites will be identified and reviewed for the assessment work. The outputs of this assessment stage, if required, will be documented in an Appropriate Assessment Information Report.

The HRA report outputs will be designed to both inform the assessment of the plan policies but also to provide a product that developers can draw upon for project-level HRA screening and assessment work.

Even at this pre-assessment stage it is recognised that there will be inherent uncertainties about the project details and the impacts arising from any screened in policies that will not be resolved fully at the assessment stage. This uncertainty applies especially to the in-combination effects of all ‘spatially-definable policies’. These uncertainties will need to be mitigated through both the application of project-level HRAs for all future activities and through the application of an iterative process for implementation and monitoring of the Plan (including an integrated research strategy and regular feedback to policy reviews). Stages 8 to 13 of the plan-level HRA guidance (see Image 1) and the sequential decision making process that will be followed when undertaking these stages is shown in the bottom half of the flow diagram in Image 2.

For the preparation of any required Appropriate Assessment Information Report, a series of impact matrices and maps will need to be prepared accompanied by explanatory text. This process will be pursued in five discrete steps as follows:

- **Step 1**: Impact pathways review - Identification of the impact pathways that are relevant for each of the relevant ‘screened in’ policies and sectors;

- **Step 2**: Identify activities to which features are sensitive - A review of the activities undertaken in each of the relevant sectors, and the environmental changes arising, which could have an impact of designated sites or interest features via the identified impact pathways;

- **Step 3**: Activity-based screening of European/Ramsar Sites - Identification (screening) of those European/Ramsar sites and their relevant interest features for which there is a LSE, or for which a LSE cannot be excluded, from the relevant sector activities and impact pathways;

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- **Step 4**: Detailed pathway-feature sensitivity review - A review of the sensitivities of the relevant interest features to the identified impact pathways and sector activities;

- **Step 5:** Assessment of the potential effects on European/Ramsar sites - Assessment of impacts via each of the activities across the relevant sectors that are influenced by the screened in draft policies in the Plan followed by the identification of available mitigation measures for each identified impact pathway and the identification, where required, of additional mitigation measures which ensure that these activities have no adverse effect on site integrity.

These outputs will be designed to both inform the assessment of the plan policies that meet the defined screening criteria but also to provide a product that developers can draw upon for project-level HRA screening and assessment work.

During the assessment process there will be ongoing consultations with key stakeholders regarding the appropriateness of the methodology being adopted, the value of the outputs being produced and the validity of the conclusion reached.

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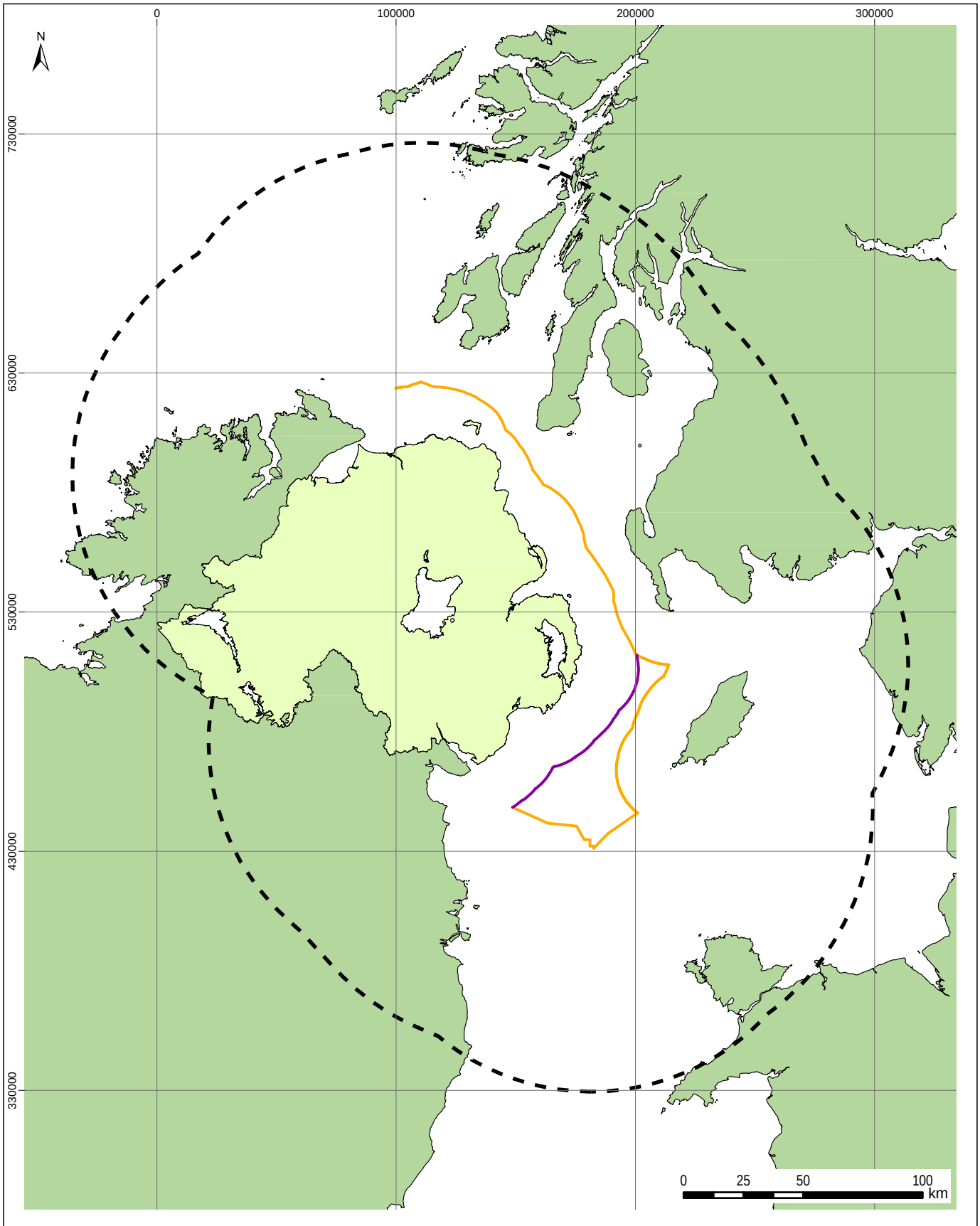

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NI Inshore/Offshore Waters Boundary

Adjacent Waters Boundary

100km Buffer Zone

ABP mer
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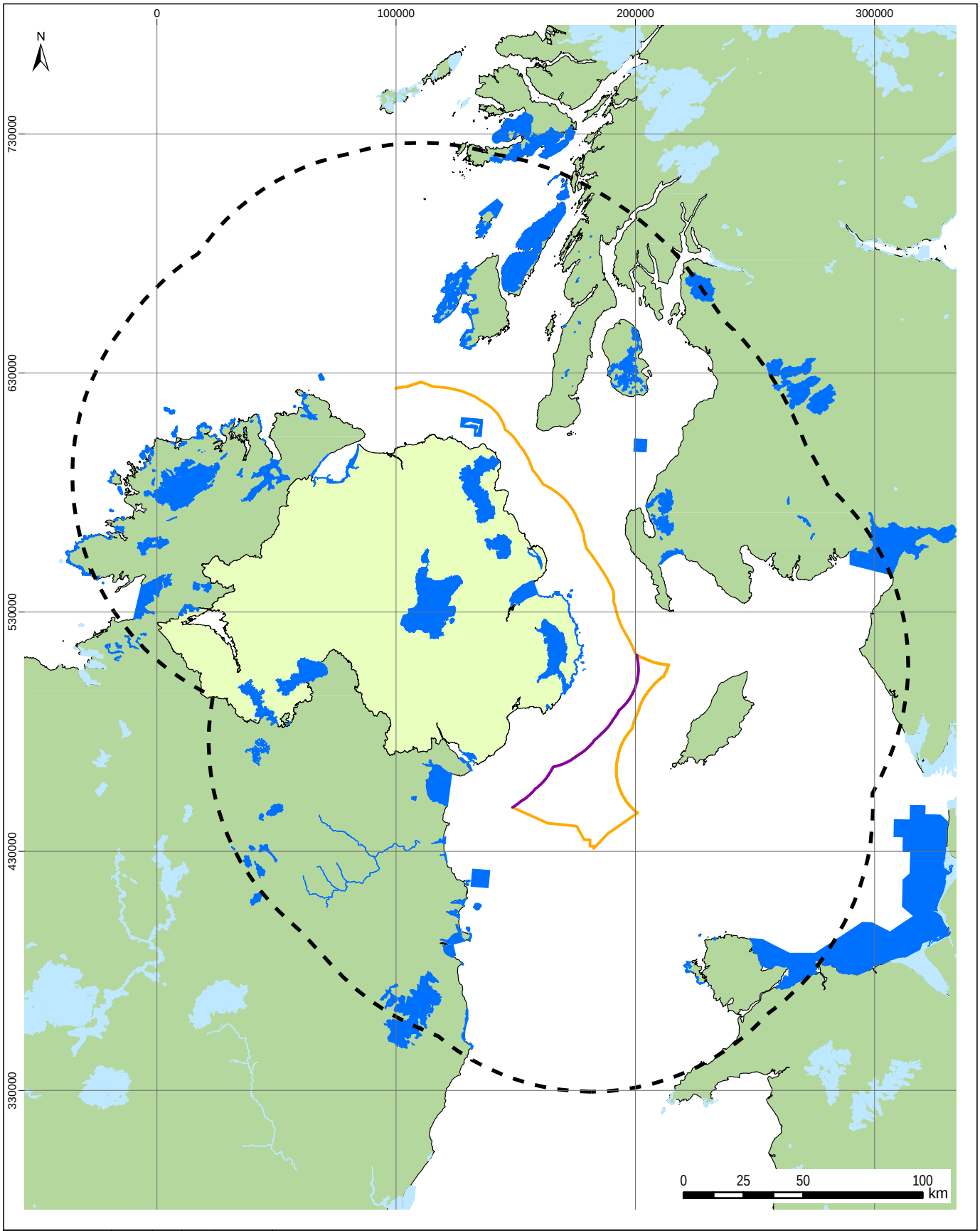
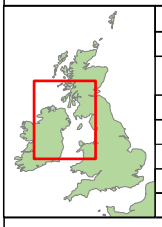
Northern Ireland Marine Plan Area
Showing 100km Buffer Zone

Figure 1





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NI Inshore/Offshore Waters Boundary

Adjacent Waters Boundary

100km Buffer Zone

Special Protection Area

Special Protection Area Outside 100km Zone

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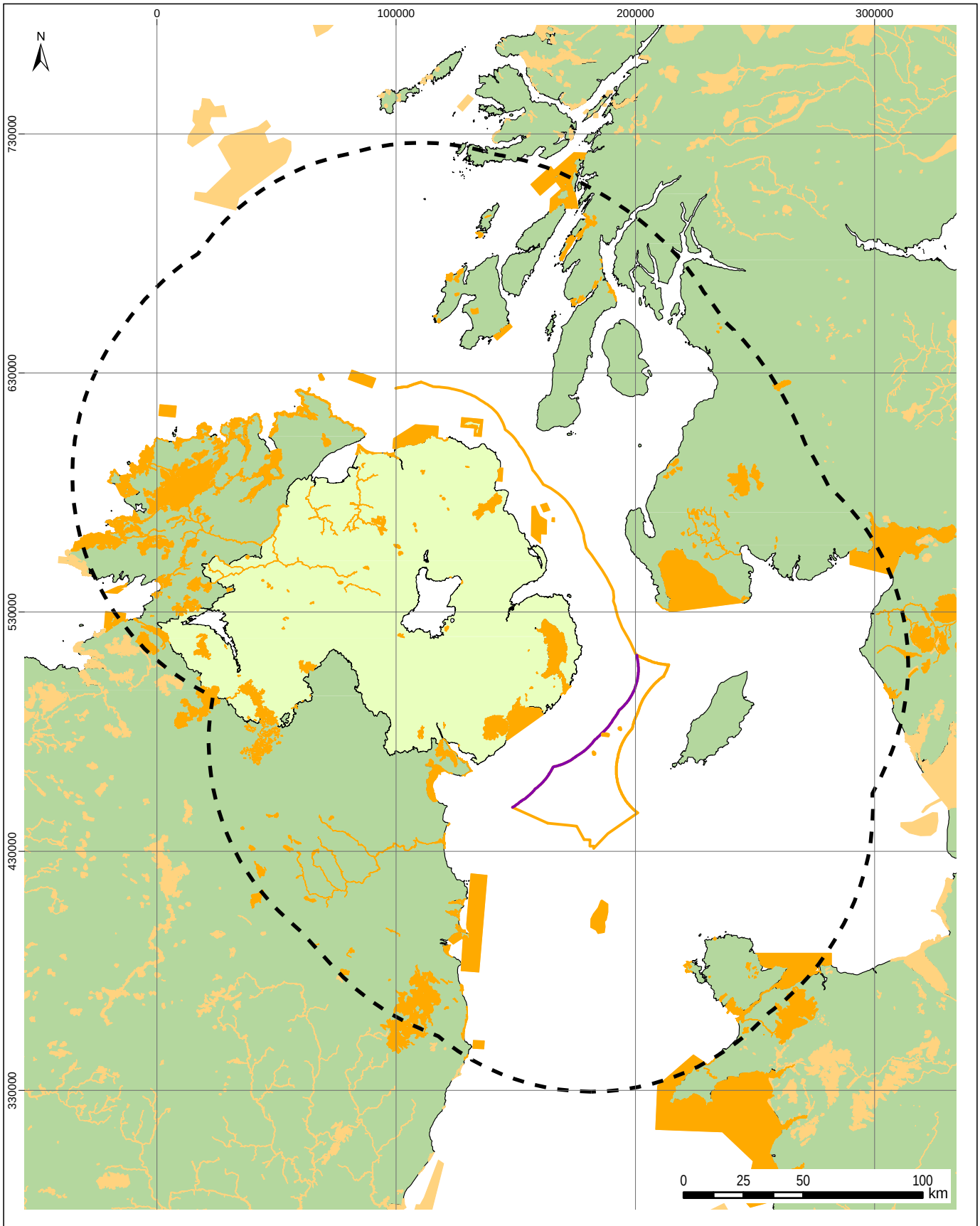
Location of all Designated UK and Non-UK SPA Sites Within and Surrounding the Northern Ireland Marine Plan Area

Figure 2a



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NI Inshore/Offshore Waters Boundary

Adjacent Waters Boundary

100km Buffer Zone

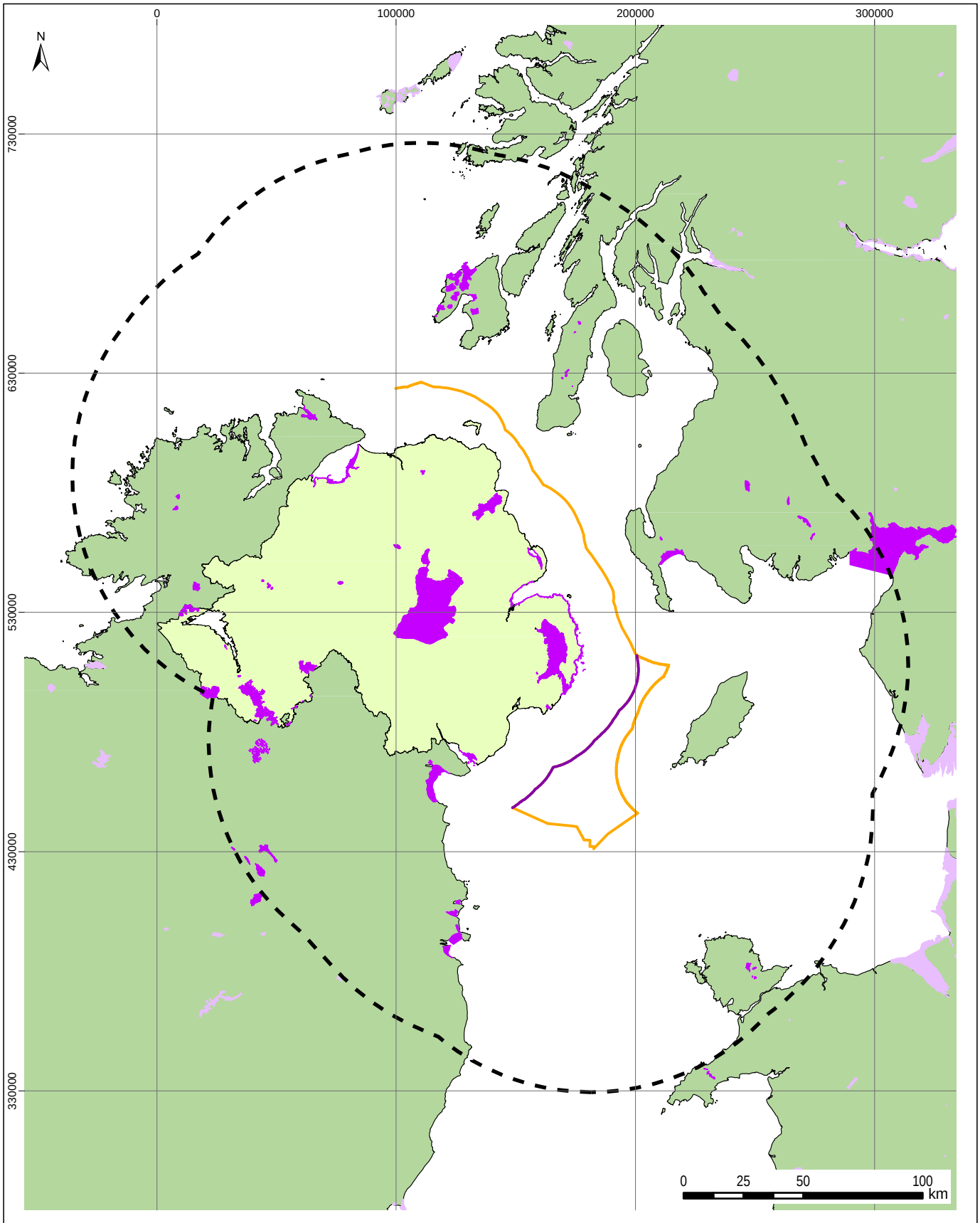
Special Area of Conservation

Special Area of Conservation Outside 100km Zone

ABP mer marine environmental research

Location of all Designated UK and Non-UK SAC Sites Within and Surrounding the Northern Ireland Marine Plan Area

Figure 2b



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NI Inshore/Offshore Waters Boundary

Adjacent Waters Boundary

100km Buffer Zone

Ramsar Site

Ramsar Site Outside 100km Zone

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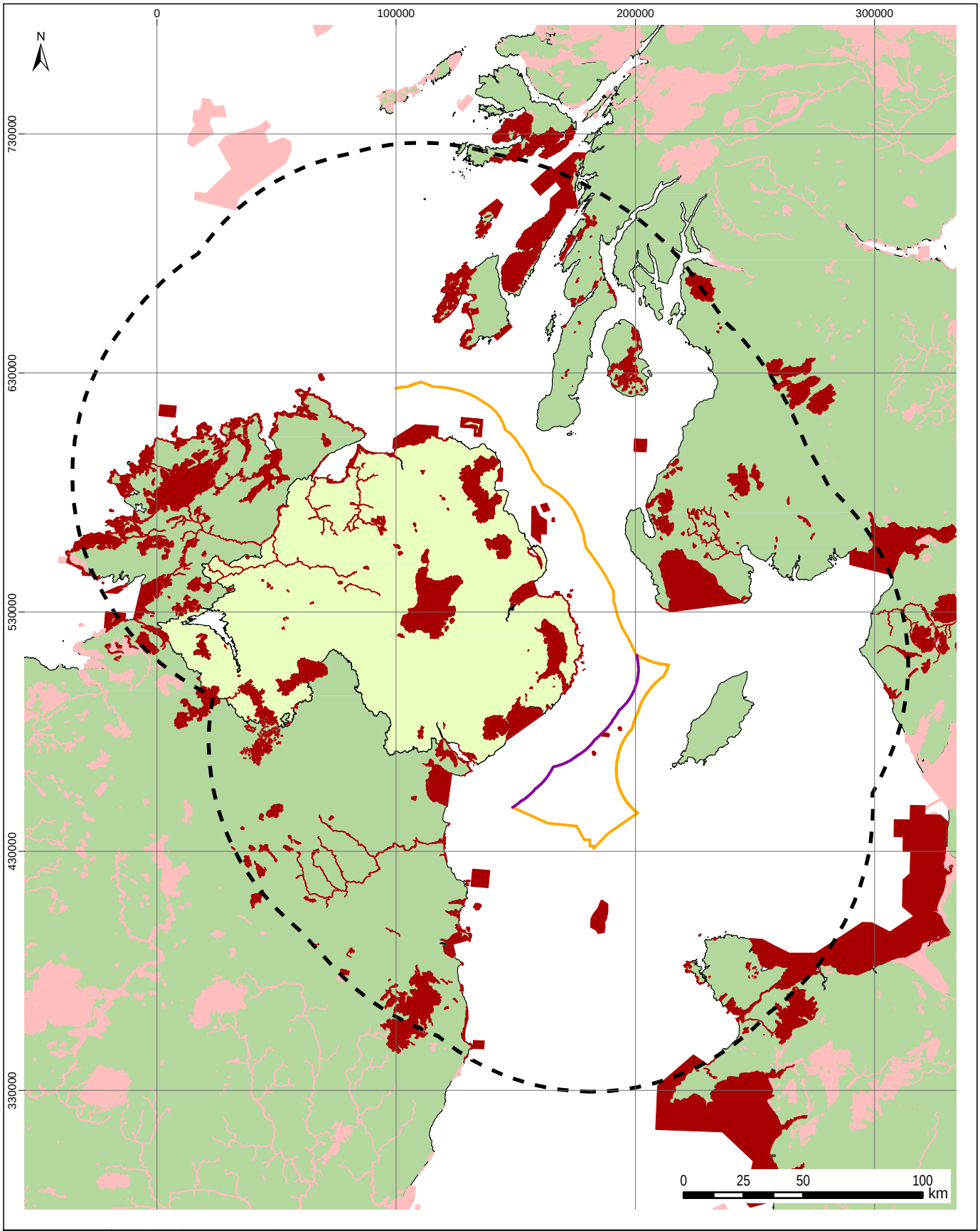
Location of all Designated UK and Non-UK Ramsar Sites Within and Surrounding the Northern Ireland Marine Plan Area

Figure 2c



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- NI Inshore/Offshore Waters Boundary
- Adjacent Waters Boundary
- 100km Buffer Zone
- Natura 2000 Site
- Natura 2000 Site Outside 100km Zone

ABP mer marine environmental research

Location of all Designated UK and Non-UK Natura 2000 Sites Within and Surrounding the Northern Ireland Marine Plan Area

Figure 3

Capabilities on project:
Environment

Appendix A - List of European/Ramsar Sites and Interest Features Identified at Pre-screening

List of European/Ramsar Sites and Interest Features Identified at Pre-screening

Table A1. List of European/Ramsar Sites and Their Interest Features That Were Identified Following the Pre-screening Review

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
SAC			
Afon Gwyrfai a Llyn Cwellyn	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, European otter, Atlantic salmon, Floating water-plantain.
Airds Moss	SAC	UK	Blanket bogs.
Aran Island (Donegal) Cliff	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts, Alpine and Boreal heaths, European dry heaths, Siliceous rocky slopes with chasmophytic vegetation and Calcareous rocky slopes with chasmophytic vegetation.
Ardagullion Bog	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs and Depressions on peat substrates of the Rhynchosporion.
Arroo Mountain	SAC	Ireland	Northern Atlantic wet heaths with Erica tetralix, Blanket bogs, Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*), Petrifying springs with tufa formation (*Cratoneurion*) and Calcareous rocky slopes with chasmophytic vegetation.
Aughnadarragh Lough	SAC	UK	Marsh fritillary butterfly.
Bae Cemlyn/Cemlyn Bay	SAC	UK	Coastal lagoons and Perennial vegetation of stony banks.
Baldoyle Bay	SAC	Ireland	Mudflats and sand flats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows, Mediterranean salt meadows.
Ballintra	SAC	Ireland	Limestone pavements and European dry heaths
Ballyarr Wood	SAC	Ireland	Old sessile oak woods with Ilex and Blechnum in British Isles.
Ballyhoorisky Point To Fanad Head	SAC	Ireland	Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, Oligotrophic waters containing very few minerals of sandy plains (Littorelletea uniflorae), Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Resident Peregrine falcon, Red-billed chough. Breeding Northern fulmar. Overwintering Long-tailed duck, Eurasian oystercatcher, Common ringed plover, Sanderling. Slender

Capabilities on project:
Environment

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			naiad and Narrow-mouthed whorl snail.
Ballykilbeg	SAC	UK	Marsh fritillary butterfly.
Ballyman Glen	SAC	Ireland	Petrifying springs with tufa formation (Cratoneurion), Alkaline fens.
Ballynafagh Bog	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs and Depressions on peat substrates of the Rhynchosporion.
Ballynafagh Lake	SAC	Ireland	Alkaline fens, Transition mires and quaking bogs, Desmoulins's whorl snail *Vertigo moulinsiana* and Marsh fritillary butterfly
Ballynahone Bog	SAC	UK	Active raised bogs.
Ballyness Bay	SAC	Ireland	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes), Humid dune slacks, Geyer`s whorl snail.
Banagher Glen	SAC	UK	Tilio-Acerion forests of slopes, screes and ravines, Old sessile oak woods with Ilex and Blechnum in the British Isles.
Bankhead Moss, Breith	SAC	UK	Active raised bogs.
Bann Estuary	SAC	UK	Atlantic salt meadows (Glauco-Puccinelietalia maritimae), fixed dunes with herbaceous vegetation ("grey dunes"), Shifting dunes along the shoreline with Ammophila arenaria ("white dunes"), Embryonic shifting dunes.
Binevenagh	SAC	UK	Species-rich Nardus grassland, on siliceous substrates in mountain areas, Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii) and Calcareous rocky slopes with chasmophytic vegetation.
Black Bog	SAC	UK	Active raised bogs.
Boyne Coast and Estuary	SAC	Ireland	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows, Mediterranean salt meadows, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria ('white dunes'), Fixed coastal dunes with herbaceous vegetation ('grey dunes').
Bray Head	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts, European dry heaths.
Breen Wood	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles, Bog woodland.
Bunduff Lough and Machair/Trawalua/Mullaghmore	SAC	Ireland	Large shallow inlets and bays, Mudflats and sandflats not covered by seawater at low tide, Fixed dunes with herbaceous vegetation (`grey dunes`), Machairs, Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`), Reefs, Alkaline fens, *Juniperus communis* formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) and Petalwort.
Burrow Head	SAC	UK	Great crested newt.

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Environment

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Carlingford Mountain	SAC	Ireland	Alpine and Boreal heaths, Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani), Calcareous rocky slopes with chasmophytic vegetation, Siliceous rocky slopes with chasmophytic vegetation.
Carlingford Shore	SAC	Ireland	Annual vegetation of drift lines, Perennial vegetation of stony banks.
Carn-Glenshane Pass	SAC	UK	Blanket bogs.
Carriggower Bog	SAC	Ireland	Transition mires and quaking bogs.
Carsegowan Moss	SAC	UK	Active raised bogs, Degraded raised bogs still capable of natural regeneration.
Cladagh (Swanlinbar) River	SAC	UK	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Freshwater Pearl Mussel
Clogher Head	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts, European dry heaths.
Cloghernagore Bog And Glenveagh National Park	SAC	UK	Oligotrophic waters containing few minerals of sandy plains, water courses of plain to montane levels with the Ranunculion fluitanis and callitricho-Batrachion vegetation, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Molina Meadows on Calcareous, peaty or clayey-silt-laden soils, Blanket bogs, Depressions on peat substrates of the Rhynchosporion, Old sessile oak woods with llex and Blechnum in British Isles, European otter, Freshwater pearl mussel, Atlantic salmon, Killarney Fern.
Clogwyni Pen Llyn/ Seacliffs of Lleyn	SAC	UK	Vegetated sea cliffs of the Atlantic and Baltic coasts.
Cockinhead Moss	SAC	UK	Active raised bogs, Degraded raised bogs still capable of natural regeneration.
Coedydd Aber	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).
Coolvoy Bog	SAC	Ireland	Blanket bogs
Corratirrim	SAC	Ireland	Limestone pavements
Corsydd Llyn/ Lleyn Fens	SAC	UK	Alkaline fens, Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Desmoulin's whorl snail, Geyer's whorl snail.
Corsydd Môn/ Anglesey Fens	SAC	UK	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Alkaline fens, Northern Atlantic wet heaths with Erica tetralix, Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae), Geyer's whorl snail, Southern damselfly, Marsh fritillary butterfly.
Cranny Bogs	SAC	UK	Active raised bogs
Croaghonagh Bog	SAC	Ireland	Blanket bogs
Croker Carbonate Slabs	SCI	UK	Submarine structures made by leaking gases

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Environment

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Cuilcagh - Anierin Uplands	SAC	Ireland	Blanket bogs, Northern Atlantic wet heaths with *Erica tetralix,* European dry heaths, Siliceous rocky slopes with chasmophytic vegetation, Species-rich *Nardus* grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe), Natural dystrophic lakes and ponds and Oligotrophic to mesotrophic standing waters with vegetation of the L*ittorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea.*
Cuilcagh Mountain	SAC	UK	Blanket bogs, Natural dystrophic lakes and ponds, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) and Siliceous rocky slopes with chasmophytic vegetation.
Curran Bog	SAC	UK	Degraded raised bogs still capable of natural regeneration and active raised bogs.
Dead Island Bog	SAC	UK	Active raised bogs.
Deroran Bog	SAC	UK	Active raised bogs.
Derryleckagh	SAC	UK	Transition mires and quaking bogs, Old sessile oak woods with Ilex and Blechnum in the British Isles
Donegal Bay (Murvagh)	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide, Humid dune slacks and Fixed dunes with herbaceous vegetation (`grey dunes`). Harbour seal
Drigg Coast	SAC	UK	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (“white dunes”), Fixed dunes with herbaceous vegetation (“grey dunes”), Atlantic decalcified fixed dunes (Calluno-Ulicetea), Dunes with Salix repens ssp. argentea (Salicion arenariae), Humid dune slacks.
Dundalk Bay	SAC	Ireland	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Perennial vegetation of stony banks, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows, Mediterranean salt meadows.
Dunmuckrum Turloughs	SAC	Ireland	Turloughs
Dunragh Loughs/Pettigo Plateau	SAC	Ireland	Blanket bogs, Northern Atlantic wet heaths with *Erica tetralix*
Durnesh Lough	SAC	Ireland	Coastal lagoons, *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
Dykeneuk Moss	SAC	UK	Active raised bogs, Degraded raised bogs still capable of natural regeneration.
Eastern Mournes	SAC	UK	Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Siliceous alpine and boreal grasslands, Blanket bogs, Siliceous scree of the montane to snow levels

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			(Androsacetalia alpinae and Galeopsietalia ladani), Siliceous rocky slopes with chasmophytic vegetation.
Eilean na Muice Duibhe	SAC	UK	Blanket bogs and Depressions on peat substrates of the Rhynchosporion.
Eryri/ Snowdonia	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea, Siliceous alpine and boreal grasslands, Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani), Calcareous rocky slopes with chasmophytic vegetation, Siliceous rocky slopes with chasmophytic vegetation, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Alpine and subalpine calcareous grasslands, Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe), Blanket bogs, Depressions on peat substrates of the Rhynchosporion, Petrifying springs with tufa formation (Cratoneurion), Alkaline fens, Alpine pioneer formations of the Caricion bicoloris-atrofuscae, Old sessile oak woods with Ilex and Blechnum in the British Isles, Slender green feather-moss, Floating water-plantain.
Fairy Water Bogs	SAC	UK	Active raised bogs
Fardrum and Roosky Turloughs	SAC	UK	Turloughs
Fawnboy Bog/Lough Nacung	SAC	Ireland	Blanket bogs, Northern Atlantic wet heaths with *Erica tetralix* and Depressions on peat substrates of the *Rhynchosporion* and Freshwater Pearl Mussel
Feur Lochain	SAC	UK	Blanket bogs, Natural dystrophic lakes and ponds, Depressions on peat substrates of the Rhynchosporion.
Firth of Lorn	SAC	UK	Reefs.
Flow of Dergoals	SAC	UK	Blanket bogs, Depressions on peat substrates of the Rynchosporion.
Galloway Oakwoods	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles.
Gannivegil Bog	SAC	Ireland	Blanket bogs, Northern Atlantic wet heaths with *Erica tetralix*, Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
Garriskil Bog	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs, Depressions on peat substrates of the *Rhynchosporion*
Garron Plateau	SAC	UK	Natural dystrophic lakes and ponds, Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Marsh saxifrage, Northern Atlantic wet heaths with Erica tetralix, Blanket bogs, Transition mires and quaking bogs, Alkaline fens, Yellow marsh saxifrage.
Garry Bog	SAC	UK	Active raised bogs.
Glac na Criche	SAC	UK	European dry heaths, Blanket bogs, Marsh fritillary butterfly, Vegetated

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			sea cliffs of the Atlantic and Baltic coasts.
Glannau Môn: Cors heli / Anglesey Coast: Saltmarsh	SAC	UK	Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Estuaries, Mudflats and sandflats not covered by seawater at low tide.
Glannau Ynys Gybi/ Holy Island Coast	SAC	UK	Vegetated sea cliff of the Atlantic and Baltic Coasts, European dry heaths, Northern Atlantic wet heaths with Erica tetralix.
Glan-traeth	SAC	UK	Great crested newt.
Glen of the Downs	SAC	Ireland	Old sessile oak woods with Ilex and Blechnum in the British Isles.
Glenasmole Valley	SAC	Ireland	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites), Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae), Petrifying springs with tufa formation (Cratoneurion).
Glynllifon	SAC	UK	Lesser horseshoe bat.
Great Orme's Head/ Pen y Gogarth	SAC	UK	European dry heaths, Semi-natural dry grasslands and scrubland facies on calcareous substrate, Vegetated sea cliffs of the Atlantic and Baltic Coasts.
Gweedore Bay and Islands	SAC	Ireland	Fixed dunes with herbaceous vegetation (`grey dunes`), European dry heaths, Machairs, Reefs , Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*), Humid dune slacks, Embryonic shifting dunes, Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`), Decalcified fixed dunes with *Empetrum nigrum,* Mediterranean salt meadows *(Juncetalia maritimi*), Dunes with *Salix* repens ssp. argentea (*Salicion arenariae*), Alpine and Boreal heaths , *Juniperus communis* formations on heaths or calcareous grasslands, Perennial vegetation of stony banks, Coastal lagoons, Atlantic decalcified fixed dunes (*Calluno-Ulicetea*), Otter, Petalwort and Slender naiad .
Hemptons Turbot Bank	cSAC	Ireland	Sandbanks which are slightly covered by sea water all the time.
Hollymount	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles and Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).
Horn Head and Rinclevan	SAC	UK	Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria, Fixed coastal dunes with herbaceous vegetation, Dunes with Salix repens ssp. argentea, Humid dune slacks, Machairs, Geyer`s whorl snail, Grey seal, Petalwort, Slender naiad.
Howth Head	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts, European dry heaths.
Inishtrahull	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts.
Ireland's Eye	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic coasts, Perennial vegetation of stony banks.
Kilhern Moss	SAC	UK	Blanket bogs, Depressions on peat substrates of the Rhynchosporion.

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Killyconny Bog (Cloghbally)	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs
Killroosky Lough Cluster	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Calcareous fens with *Cladium mariscus* and species of the C*aricion davallianae*, Alkaline fens, White-clawed (or Atlantic stream) crayfish
Kindrum Lough	SAC	UK	Lowland Oligotrophic lake, are plants are found in the area including the Slender naiad and the stonewort both of which are both found in the Red Data Book.
Kirkcowan Flow	SAC	UK	Blanket bogs, Depressions on peat substrates of the Rhynchosporion.
Knocksink Wood	SAC	Ireland	Petrifying springs with tufa formation (Cratoneurion), Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).
Lake District High Fells	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Juniperus communis formations on heaths or calcareous grasslands, Siliceous alpine and boreal grasslands, Species-rich Nardus grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe), Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, Blanket bogs, Alkaline fens, Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani), Calcareous rocky slopes with chasmophytic vegetation, Siliceous rocky slopes with chasmophytic vegetation, Old sessile oak woods with Ilex and Blechnum in the British Isles, Slender green feather-moss.
Lambay Island	SAC	Ireland	Vegetated sea cliffs of the Atlantic and Baltic Coasts, Grey seal.
Largalinny	SAC	UK	Old sessile oak woods with llex and Blechnum in the British Isle,
Leannan River	SAC	UK	Freshwater pearl mussel, Atlantic salmon, Slender naiad, Oligotrophic waters containing very few minerals of sandy plains, European otter.
Lecale Fens	SAC	UK	Alkaline fens.
Lendalfoot Hills Complex	SAC	UK	Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Calaminarian grasslands of the Violetalia calaminariae, Species-rich Nardus grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe), Transition mires and quaking bogs, Alkaline fens.
Llyn Dinam	SAC	UK	Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation.
Loch Fada	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, European otter, Slender naiad.
Loch Bane and Lough	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. and

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Glass			White-clawed (or Atlantic stream) crayfish
Lough Ennell	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Alkaline fens, Otter and Brook lamprey
Lough Eske and Ardnamona Wood	SAC	Ireland	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae), Old sessile oak woods with Ilex and Blechnum in the British Isles, Petrifying springs with tufa formation (Cratoneurion), Killarney fern , Atlantic salmon and Freshwater pearl mussel
Lough Golagh and Breesy Hill	SAC	Ireland	Blanket bogs
Lough Lene	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. and White-clawed (or Atlantic stream) crayfish
Lough Melvin	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae), Old sessile oak woods with Ilex and Blechnum in the British Isles and Atlantic salmon
Lough Melvin	SAC	Ireland	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the *Isoëto-Nanojuncetea,* Otter and Atlantic salmon.
Lough Nageage	SAC	Ireland	White-clawed (or Atlantic stream) crayfish
Lough Nagreany Dunes	SAC	Ireland	Embryonic shifting dunes, decalcified fixed dunes with Empetrum nigrum, Atlantic decalcified fixed dunes, fixed dunes with herbaceous vegetation and dune with Salix repens species argentea, Slender naiad.
Lough Nillan Bog (Carrickatlieve)	SAC	Ireland	Blanket bogs and Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)
Lough Oughter and Associated Loughs	SAC	Ireland	Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation, Bog woodland and Otter
Lough Owel	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Alkaline fens, Transition mires and quaking bogs and White-clawed (or Atlantic stream) crayfish
Lough Swilly	SAC	Ireland	Estuaries, Coastal lagoons, Atlantic salt meadows, Old sessile woods with Ilex and Blechnum in British Isles, European otter.
Luce Bay and Sands	SAC	UK	Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by seawater at low tide, Large shallow inlets and bays, Reefs, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (“white dunes”), Fixed dunes with herbaceous vegetation (“grey dunes”), Atlantic decalcified fixed dunes (Calluno-Ulicetea), Great crested newt.
Magherabeg Dunes	SAC	Ireland	Annual vegetation of drift lines, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes), Atlantic decalcified fixed

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			dunes (Calluno-Ulicetea), Petrifying springs with tufa formation (Cratoneurion).
Magheradrumman Bog	SAC	Ireland	North Atlantic wet heaths with Erica tetralix, Blanket bogs.
Magheraveely Marl Loughs	SAC	UK	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Alkaline fens, White-clawed crayfish
Magilligan	SAC	UK	Humid dune slacks, Dunes with Salix repens ssp. argentea, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria ("white dunes"), Fixed dunes with herbaceous vegetation ("grey dunes"), Mudflats and sandflats not covered by seawater at low tide, Petalwort, Marsh fritillary butterfly.
Main Valley Bogs	SAC	UK	Active raised bogs.
Malahide Estuary	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Spartina swards, Mediterranean salt meadows (Juncetalia maritimi), Fixed dunes with herbaceous vegetation (grey dunes), Shifting dunes along the shoreline with Ammophilia arenaria ('white dunes').
Meenaguse Scragh	SAC	Ireland	Northern Atlantic wet heaths with *Erica tetralix*
Meenaguse / Ardbane Bog	SAC	Ireland	Blanket bogs
Meentygrannagh Bog	SAC	Ireland	Blanket bogs, Transition mires and quaking bogs , Alkaline fens and Slender green feather-moss
Merrick Kells	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Natural dystrophic lakes and ponds, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Siliceous alpine and boreal grasslands, Blanket bogs, Depressions on peat substrates of the Rhynchosporion, Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani), Siliceous rocky slopes with chasmophytic vegetation, European otter.
Mochrum Lochs	SAC	UK	Blanket bogs, Depressions on peat substrates of the Rhynchosporion.
Mòine Mhór	SAC	UK	Atlantic salt meadows (Glauco-Puccinelietalia maritimae), Mudflats and sandflats not covered by seawater at low tide, Active raised bogs, Degraded raised bogs still capable of natural regeneration, Old sessile oak woods with Ilex and Blechnum in the British Isles, Marsh fritillary butterfly, European otter.
Monawilkin	SAC	UK	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) and Old sessile oak woods with Ilex and Blechnum in the British Isles
Moneybeg and Clare	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised

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Island Bogs			bogs and Depressions on peat substrates of the *Rhynchosporion.*
Moneygal Bog	SAC	Ireland	Active raised bogs
Moninea Bog	SAC	UK	Active raised bogs
Montiaghs Moss	SAC	UK	Marsh fritillary butterfly.
Mouds Bog	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs and Depressions on peat substrates of the *Rhynchosporion*
Mount Hevey Bog	SAC	Ireland	Degraded raised bogs still capable of natural regeneration, Active raised bogs and Depressions on peat substrates of the *Rhynchosporion*
Muckish Mountain	SAC	Ireland	Alpine and Boreal heaths, Siliceous rocky slopes with chasmophytic vegetation.
Mull of Galloway	SAC	UK	Vegetated sea cliffs of the Atlantic and Baltic coasts.
Mulroy Bay	SAC	Ireland	Reefs and Large shallow inlets and bays, European otter.
Murlough	SAC	UK	Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by seawater at low tide, Atlantic salt meadows (Glauco-puccinellietalia maritimae), Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (“white dunes”), Fixed dunes with herbaceous vegetation (“grey dunes”), Atlantic decalcified fixed dunes (Calluno-Ulicetea), Dunes with Salix repens ssp. argentea (Salicion arenariae), Marsh fritillary butterfly, Harbour Seal.
North Antrim Coast	SAC	UK	Annual vegetation of drift lines, Fixed dunes with herbaceous vegetation ("grey dunes"), Vegetated sea cliffs of the Atlantic and Baltic coasts, Shifting dunes along the shoreline with Ammophila arenaria ("white dunes"), Atlantic salt meadows, Narrow-mouthed whorl snail, Species-rich Nardus grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe).
North Dublin Bay	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide, Annual vegetation of drift lines, Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophils arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes), Salicornia and other annuals colonizing mud and sand, Spartina swards, Atlantic salt meadows, Mediterranean salt meadows (Juncetalia maritimi), Petalwort.
North Inishowen Coast	SAC	Ireland	Narrow-mouthed whorl snail, Mudflats and sandflats not covered by seawater at low tide, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, Fixed coastal dunes with herbaceous vegetation ('grey dunes'), Machairs, European dry heaths, European otter.
Oronsay	SAC	UK	Machairs.
Owenkillew River	SAC	UK	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Old sessile oak woods with Ilex and Blechnum in the British Isles, Bog woodland, Freshwater pearl mussel, Atlantic salmon, European otter.

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Peatlands Park	SAC	UK	Active raised bogs, Degraded raised bogs still capable of natural regeneration, Old sessile oak woods with Ilex and Blechnum in the British Isles, Bog woodland.
Pen Llyn a`r Sarnau/ Lleyn Peninsula and the Sarnau	SAC	UK	Sandbanks which are slightly covered by sea water all the time, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Large shallow inlets and bays, Reefs, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Submerged or partially submerged sea caves, Common bottlenose dolphin, European otter, Grey seal.
Pettigoe Plateau	SAC	UK	Natural dystrophic lakes and ponds, Blanket bogs, Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Northern Atlantic wet heaths with Erica tetralix and European dry heaths
Pisces Reef Complex	SCI	UK	Reefs
Rathlin Island	SAC	UK	Submerged or partially submerged sea caves, Annual vegetation of drift lines, Sandbanks which are slightly covered by sea water all the time, Reefs, vegetated sea cliffs of the Atlantic and Baltic coasts
Rea's Wood and Farr's Bay	SAC	UK	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).
Red Bay	SCI	UK	Sandbanks which are slightly covered by sea water all the time
Red Bog, Kildare	SAC	Ireland	Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation, Transition mires and quaking bogs and Active raised bogs
Rinns of Islay	SAC	UK	Marsh fritillary butterfly.
River Bladnoch	SAC	UK	Atlantic salmon.
River Boyne and River Blackwater	SAC	Ireland	Alkaline fens, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae), River lamprey, Atlantic salmon, European otter.
River Derwent and Bassenthwaite Lake	SAC	UK	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Marsh fritillary butterfly, Sea lamprey, European brook lamprey, European river lamprey, Atlantic salmon, European otter, Floating water-plantain.
River Ehen	SAC	UK	Freshwater pearl mussel and Atlantic salmon.
River Faughan and Tributaries	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles , Atlantic salmon and otter
River Finn	SAC	Ireland	Oligotrophic waters containing very few minerals of sandy plains, Northern Atlantic wet heaths with Erica tetralix, Blanket Bogs, Transition mires and quaking bogs, European otter, Atlantic salmon.
River Foyle and	SAC	UK	Water courses of plain to montane levels with the Ranunculion fluitantis

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Tributaries			and Callitricho-Batrachion vegetation, European otter, Atlantic salmon.
River Roe and Tributaries	SAC	UK	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Old sessile oak woods with Ilex and Blechnum in the British Isles, Atlantic salmon, European otter.
Rockabill to Dalkey Island	SAC	Ireland	Reefs, Harbour porpoise.
Rogerstown Estuary	SAC	Ireland	Estuaries, Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Atlantic salt meadows, shifting dunes along the shoreline with Ammophila arenaria ("white dunes"), Fixed coastal dunes with herbaceous vegetation ("grey dunes").
Rostrevor Wood	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles.
Rutland Island and Sound	SAC	Ireland	Large shallow inlets and bays, Reefs, Coastal lagoons, Humid dune slacks, Fixed dunes with herbaceous vegetation (`grey dunes`), Shifting dunes along the shoreline with Ammophila arenaria (`white dunes`), Embryonic shifting dunes, Annual vegetation of drift lines and Harbour seal
Rye Water Valley/Carton	SAC	Ireland	Petrifying springs with tufa formation *(Cratoneurion)*, Narrow-mouthed whorl snail Vertigo angustior and Desmoulin`s whorl snail
Scragh Bog	SAC	Ireland	Transition mires and quaking bogs, Alkaline fens , Slender green feather-moss and Marsh fritillary butterfly
Sessiagh Lough	SAC	Ireland	Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)* and Slender naiad
Sheephaven	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide, Fixed dunes with herbaceous vegetation (`grey dunes`), Machairs, Old sessile oak woods with Ilex and Blechnum in the British Isles, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae)*, Mediterranean salt meadows *(Juncetalia maritimi*), Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`) and Petalwort.
Skerries and Causeway	SCI	UK	Sandbanks which are slightly covered by sea water all the time, reefs, submerged or partially submerged sea caves and Harbour porpoise
Slieve Beagh	SAC	UK	Natural dystrophic lakes and ponds, European dry heaths, Blanket bogs.
Slieve Gullion	SAC	UK	European dry heaths.
Slieve Tooey/Tormorer Island/loughros Beg Bay	SAC	Ireland	Blanket bogs, Alpine and Boreal heaths, Vegetated sea cliffs of the Atlantic and Baltic coasts, Embryonic shifting dunes, Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`), Atlantic decalcified fixed dunes (*Calluno-Ulicetea*), Decalcified fixed dunes with *Empetrum nigrum*. Grey seal, otter and Narrow-mouthed whorl snail.
Solway Firth	SAC	UK	Sandbanks which are slightly covered by seawater all the time, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Reefs, Perennial vegetation of stony banks, Salicornia and other annuals

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			colonising mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Fixed dunes with herbaceous vegetation (“grey dunes”), Sea lamprey, River lamprey.
South Dublin Bay	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide.
South-East Islay Skerries	SAC	UK	Harbour seal.
St John's Point	SAC	Ireland	Large shallow inlets and bays, Reefs, Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*), Alkaline fens, Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae), Limestone pavements and Submerged or partially submerged sea caves.
Strangford Lough	SAC	UK	Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Large shallow inlets and bays, Reefs, Annual vegetation of drift lines, Perennial vegetation of stony banks, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Harbour seal.
Tamur Bog	SAC	Ireland	Blanket bogs, Northern Atlantic wet heaths with *Erica tetralix* and Depressions on peat substrates of the Rhynchosporion
Tarbert Woods	SAC	UK	Old sessile oak woods with Ilex and Blechnum in the British Isles.
Taynish and Knapdale Woods	SAC	UK	Marsh fritillary butterfly, Old sessile oak woods with Ilex and Blechnum in the British Isles, Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea, European otter.
Tayvallich Juniper and Coast	SAC	UK	Marsh fritillary butterfly, Juniperus communis formations on heaths or calcareous grasslands, European otter.
Teal Lough	SAC	UK	Blanket bogs.
Termon Strand	SAC	Ireland	Coastal lagoons
The Long Derries, Edenderry	SAC	Ireland	Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)
The Maidens	SCI	UK	Sandbanks which are slightly covered by sea water all the time, reefs and grey seal
The Murrough Wetlands	SAC	Ireland	Perennial vegetation of stony banks, Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Alkaline fens, Annual vegetation of drift lines, Atlantic salt meadows (Glauco-Puccinellietalia maritimae), Mediterranean salt meadows (Juncetalia maritimi).
Tonnagh Beg Bog	SAC	UK	Active raised bogs
Tory Island Coast	SAC	Ireland	Coastal lagoons, Reefs, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts.
Tranarossan And Melmore Lough	SAC	Ireland	Mudflats and saltflats not covered by seawater at low tide, Annual vegetation of drift lines, Vegetation sea cliffs of the Atlantic and Baltic coasts, embryonic shifting dunes, Shifting dunes along the shoreline with

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			Ammophila arenaria, fixed coastal dunes with herbaceous vegetation, decalcified fixed dunes with Empetrum nigrum, Dunes with Salix repens ssp. argentea, Machairs, Hard oligo-mesotrophic waters with benthic vegetation of Chara spp., Perennial vegetation of stony banks, European dry heaths, Alpine and boreal heaths, Petalwort.
Tully Bog	SAC	UK	Active raised bogs.
Turmennan	SAC	UK	Transition mires and quaking bogs.
Upper Ballinderry River	SAC	UK	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Freshwater pearl mussel, European otter.
Upper Lough Erne	SAC	UK	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation, Old sessile oak woods with Ilex and Blechnum in the British Isles, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) and otter
West Fermanagh Scarplands	SAC	UK	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites), Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae), Limestone pavements , Tilio-Acerion forests of slopes, screes and ravines, Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation, Northern Atlantic wet heaths with Erica tetralix, Blanket bogs, Petrifying springs with tufa formation (Cratoneurion) and Alkaline fens
West of Ardara/Maas Road	SAC	Ireland	Mudflats and sandflats not covered by seawater at low tide, Blanket bogs, Estuaries, Northern Atlantic wet heaths with *Erica tetralix,* European dry heaths, Large shallow inlets and bays, Fixed dunes with herbaceous vegetation (`grey dunes`), Alpine and Boreal heaths, *Juniperus communis* formations on heaths or calcareous grasslands, *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) , Atlantic decalcified fixed dunes (*Calluno-Ulicetea*), Alkaline fens, Decalcified fixed dunes with *Empetrum nigrum,* Dunes with *Salix repens ssp. argentea (Salicion arenariae),* Shifting dunes along the shoreline with *Ammophila arenaria* (`white dunes`), Depressions on peat substrates of the *Rhynchosporion*, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), Mediterranean salt meadows (*Juncetalia maritimi*), Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*), Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*), Machairs , Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*), Humid dune slacks, Grey Seal, Otter, Slender naiad, Petalwort , Atlantic salmon , Freshwater Pearl Mussel, Marsh fritillary butterfly and Geyer`s whorl snail
White Lough, Ben	SAC	Ireland	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. and

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Loughs and Lough Doo			White-clawed (or Atlantic stream) crayfish
Wicklow Mountains	SAC	Ireland	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Iso-to-Nanojuncetea, Natural dystrophic lakes and ponds, Northern Atlantic wet heaths with Erica tetralix, European dry heaths, Alpine and Boreal heaths, Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe), Blanket bog (*active only), Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani), Calcareous rocky slopes with chasmophytic vegetation, Siliceous rocky slopes with chasmophytic vegetation, Old sessile oak woods with Ilex and Blechnum in British Isles, European otter.
Wicklow Reef	SAC	Ireland	Reefs.
Wolf Island Bog	SAC	UK	Active raised bogs.
Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay	SAC	UK	Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by seawater at low tide, Reefs, Large shallow inlets and bays, Submerged or partially submerged sea caves.
Y Twyni o Abermenai i Aberffraw/ Abermenai to Aberffraw Dunes	SAC	UK	Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (white dunes) , Fixed coastal dunes with herbaceous vegetation (grey dunes), Dunes with Salix repens ssp. Argentea (Salicion arenariae), Humid dune slacks, Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation, Shore dock, Petalwort.
SPA			
Ailsa Craig	SPA	UK	Article 4.2 breeding populations of Lesser black-backed gull and Northern gannet. 65,000 seabirds (Article 4.2) including European herring gull, Lesser black-backed gull, Northern gannet, Black-legged kittiwake and Common guillemot during the breeding season.
Antrim Hills	SPA	UK	Breeding populations of Hen harrier and Merlin.
Arran Moors	SPA	UK	Breeding populations of Hen harrier.
Baldoyle Bay	SPA	Ireland	Article 4.1 Overwintering Golden plover and Bar-tailed Godwit. Article 4.2 Overwintering Great Crested Grebe, Brant Goose, Shelduck, Teal, Mallard, Pintail, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Curlew, Redshank, Greenshank, Ruddy Turnstone, Sanderling
Belfast Lough	SPA	UK	Article 4.2 overwintering populations of Common redshank.
Belfast Lough Open Water	SPA	UK	Article 4.2 overwintering populations of Great crested grebe.
Boyne Estuary	SPA		Shelduck, Oystercatcher, Golden plover, Grey plover, Lapwing, Knot, Sanderling, Black-tailed godwit, Redshank, Turnstone and Little tern.
Bridgend Flats, Islay	SPA	UK	Overwintering populations of Barnacle goose.

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Carlingford Lough	SPA	UK	Breeding populations of Common tern and Sandwich tern.
Carlingford Lough	SPA	Ireland	Wintering populations of Cormorant, Brant Goose, Red-breasted Merganser, Oystercatcher, Dunlin, Redshank, Ruddy turnstone
Cnuic agus Cladach Mhuile	SPA	UK	During the year, the area regularly supports Golden eagle.
Copeland Islands	SPA	UK	Breeding populations of Artic tern. Article 4.2 breeding populations of Manx shearwater.
Dalkey Islands	SPA	Ireland	Article 4.1 and 4.2 Overwintering and Breeding Arctic Tern, Roseate Tern, Common Tern.
Derryveagh and Glendowan Mountains	SPA	Ireland	Article 4.1 Breeding Red-throated Diver, Golden Plover, Peregrine falcon and Merlin. Article 4.2 Breeding Redstart, Wood warbler, Ring ouzel, Whinchat, Blackcap.
Donegal Bay	SPA	Ireland	Article 4.1 Wintering populations of Red Throated Diver, Black Throated Diver, Great Northern Diver and Bar tailed godwit. Article 4.2 Black headed gull, common gull, Grey heron, Great Cormorant, Brant goose, Shelduck, Widgeon, Mallard, Long-tailed duck, Common scoter, Red breasted merganser, Oystercatcher, Ringed plover, Sanderling, Purple sandpiper, Dunlin, Eurasian Curlew, Redshank, Greenshank, Ruddy turnstone.
Dundalk Bay	SPA	Ireland	Article 4.1 Overwintering Red-throated Diver, Great-northern Diver, Golden Plover, Bar-tailed Godwit, Ruff, Greenland White-fronted Goose. Breeding Ruff. Article 4.2 Overwintering Great-crested Grebe, Cormorant, Greylag Goose, Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Goldeneye, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone, Black-headed Gull
Durnesh Lough	SPA	Ireland	Article 4.1 wintering populations of whooper swan, Greenland white fronted goose. Article 4.2 wintering populations of Little Grebe, Common pochard, Greater scaup and common goldeneye.
Eilean na Muice Duibhe (Duich Moss), Islay	SPA	UK	Overwintering populations of Greenland white-fronted goose.
Falcarragh to Meenlaragh	SPA	Ireland	Corncrake.
Fanad Head	SPA	Ireland	Corncrake.
Garriskill Bog	SPA	Ireland	Article 4.1 Breeding populations of Merlin. Article 4.2 breeding populations of Common snipe, Eurasian Curlew and Redshank
Glannau Ynys Gybi/ Holy Island Coast	SPA	UK	Breeding populations of Red-billed chough. Overwintering populations of Red-billed chough.
Glen App and Galloway Moors	SPA	UK	Breeding populations of Hen harrier.
Glen Lough	SPA	Ireland	Article 4.1 Wintering populations of Whooper swan, Greenland white

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			fronted goose. Article 4.2 wintering populations of Wigeon, Teal, Mallard, Northern pintail, Northern Shoveler and Northern Lapwing.
Greers Isle	SPA	Ireland	Article 4.1 Breeding Sandwich Tern, Common Tern and Arctic Tern. Article 4.2 Breeding Common Gull and Black-headed Gull
Gruinart Flats, Islay	SPA	UK	Overwintering populations of Greenland white-fronted goose and Barnacle goose. Article 4.2 overwintering populations of Light-bellied Brent goose.
Horn Head to Fanad Head	SPA	Ireland	Article 4.1 Overwintering Whooper Swan, Brent Goose, Greenland White-fronted Goose. Breeding Peregrine falcon and Chough Article 4.2 Breeding Lapwing, Snipe, Dunlin, Common Sandpiper, Northern Fulmar, Cormorant, European Shag, Herring Gull, Black-legged Kittiwake, Guillemot, Razorbill, Atlantic Puffin. Breeding Teal, Mallard, Common Pochard, Tufted Duck and Coot.
Howth Head Coast	SPA	Ireland	Article 4.1 Resident Peregrine falcon. Article 4.2 Breeding Fulmar, Kittiwake, Guillemots and Razorbill.
Illancrone and Inishkeeragh	SPA	Ireland	Article 4.1 breeding populations of Common tern, Artic tern, Little tern and Barnacle goose.
Inishbofin, Inishdooey and Inishbeg	SPA	Ireland	Article 4.1 Overwintering Brent Goose. Breeding Arctic Tern and Corncrake. Article 4.2 Breeding Northern Fulmar
Inishduff	SPA	Ireland	Article 4.1 breeding populations of Storm Petrel and wintering populations of Barnacle goose.
Inishkeel	SPA	Ireland	Article 4.1. wintering populations of Barnacle goose. Article 4.2 wintering populations of Long tailed duck
Inishtrahull	SPA	Ireland	Article 4.1 Overwintering Brent Goose. Article 4.2 Breeding Northern Fulmar, Common Gull, Lesser Black-backed Gull, Black-legged Kittiwake, Shag and Herring Gull.
Ireland's Eye	SPA	Ireland	Article 4.1 Breeding Northern Fulmar, Northern Gannet, Cormorant, Black-legged Kittiwake, Guillemot, Razorbill and Puffin. Overwintering Black-legged kittiwake, Guillemot, Razorbill and Puffin.
Jura, Scarba and the Garvellachs	SPA	UK	During the year the area regularly supports Golden eagle.
Killough Bay	SPA	UK	Article 4.2 overwintering populations of Light-bellied Brent goose.
Kintyre Goose Roosts	SPA	UK	Overwintering populations of Greenland white-fronted goose.
Knapdale Lochs	SPA	UK	Breeding populations of black-throated loon.
Laggan, Islay	SPA	UK	Overwintering population of Greenland white-fronted goose and Barnacle goose.
Lambay Island	SPA	Ireland	Article 4.1 Resident Peregrine falcon Article 4.2 Breeding Northern Fulmar, Manx Shearwater, Cormorant, Lesser Black-backed Gull, Black-legged Kittiwake, Guillemot, Razorbill, Atlantic Puffin, Oystercatcher and Shelduck. Overwintering Cormorant, Greylag Goose, Brent Goose, Oystercatcher, Purple Sandpiper, Curlew and Turnstone.

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Larne Lough	SPA	UK	Breeding populations of Roseate tern and Common tern. Article 4.2 overwintering populations of Light-bellied Brent goose.
Liverpool Bay / Bae Lerpwl	SPA	UK	Overwintering populations of Red-throated diver and Common scoter. In the non-breeding season, the area regularly supports 55,597 waterfowl.
Loch Ken and River Dee Marshes	SPA	UK	Overwintering populations of Greenland white-fronted goose. Article 4.2 overwintering populations of Greylag goose.
Loch of Inch and Torrs Warren	SPA	UK	Overwintering populations of Greenland white-fronted goose and Hen harrier.
Lough of Derg (Donegal)	SPA	Ireland	Article 4.1 wintering populations of white fronted goose. Article 4.2 breeding populations of Lesser black backed gull
Lough Derravaragh	SPA	Ireland	Article 4.1 wintering populations of white fronted goose, whooper swan and Golden plover. Article 4.2 wintering populations of wigeon, Mallard, Pochard, Tufted duck, Golden eye, Coot, Northern Lapwing, Great crested grebe, Cormorant, Teal, Northern pintail and Northern shoveler
Lough Ennell	SPA	Ireland	Article 4.1 wintering populations of white fronted goose and Golden plover. Article 4.2 wintering populations of pochard, tufted duck, coot, great crested grebe, Mallard, Golden eye and Northern Lapwing.
Lough Fern	SPA	Ireland	Article 4.1 Overwintering Whooper Swan. Article 4.2 Overwintering Common Pochard, Tufted Duck, Goldeneye
Lough Foyle	SPA	UK	Overwintering Whooper swan and Bar-tailed godwit . Article 4.2 overwintering populations of Light-bellied Brent goose. 36,599 waterfowl (Article 4.2) including Whooper swan, Light-bellied Brent goose and Bar-tailed godwit during the winter.
Lough Foyle	SPA	Ireland	Wintering populations of Great Crested Grebe, Cormorant, Brant Goose, Shelduck, Wigeon, Mallard, Red-breasted Merganser, Oystercatcher, Ringed Plover, Red-Knot, Curlew, Red-shank, Green-shank, Ruddy Turnstone, Black-headed gull and Common Gull.
Lough Iron	SPA	Ireland	Article 4.1 Wintering populations of Whooper Swan, White fronted goose and golden plover. Article 4.2 wintering populations of wigeon, Teal, Mallard, Northern pintail, Northern shoveler, Common pochard, Tufted duck, Coot, Northern lapwing and Curlew.
Lough Kinale and Derragh Lough	SPA	Ireland	Article 4.2 wintering populations of Mallard, Pochard, Tufted duck, Coot, Golden eye, Great crested grebe, Great cormorant, Black headed gull and Little grebe.
Lough Neagh and Lough Beg	SPA	UK	Breeding populations of Common tern. Overwintering populations of Tundra swan and Whooper swan. Article 4.2 overwintering populations of Common pochard, Tufted duck and Common golden eye. 99,262 waterfowl (Article 4.2) including Common tern, Tundra swan, Whooper swan, Common pochard, Tufted duck and Common golden eye during breeding season.
Lough Nillan Boy	SPA	Ireland	Article 4.1 Breeding populations of Merlin, Golden plover and white

Capabilities on project:
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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			fronted goose.
Lough Oughter Complex	SPA	Ireland	Article 4.1. wintering populations of whooper swans, white fronted goose and common tern. Article 4.2 wintering populations of Teal, Mallard, pochard, tufted duck, golden eye, northern lapwing, Curlew, wigeon, Great cormorant, Black headed gull and Great crested grebe.
Lough Owel	SPA	Ireland	Article 4.1 wintering populations of white fronted goose. Article 4.2 wintering populations of pochard, tufted duck, golden eye, coot, northern shoveler and Little grebe
Lough Sheelin	SPA	Ireland	Article 4.2 Great crested grebe, pochard, tufted duck, golden eye, coot, Black headed gull, Great Cormorant and Mallard.
Lough Swilly	SPA	Ireland	Article 4.1 Overwintering Whooper Swan, Golden Plover, Bar-tailed Godwit and Greenland White-fronted Goose. Article 4.2 Overwintering Great-crested Grebe, Cormorant, Greylag Goose, Brent Goose, Shelduck, Wigeon, Teal, Mallard, Shoveller, Tufted Duck, Scaup, Goldeneye, Red-breasted Merganser, Oystercatcher, Ringed Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone, Black-headed Gull, Common Gull
Malahide Estuary	SPA	Ireland	Article 4.1 Overwintering Golden Plover, Bar-tailed Godwit, Ruff. Article 4.2 Overwintering Great-crested Grebe, Cormorant, Brent Goose, Shelduck, Teal, Mallard, Pintail, Pochard, Goldeneye, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Knot, Dunlin, Sanderling, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone, Black-headed Gull, Common Gull, Little Stint, Curlew Sandpiper, Green Sandpiper, Lapwing
Malin Head	SPA	Ireland	Corncrake.
Muirkirk and North Lowther Uplands	SPA	UK	Breeding populations of Short-eared owl, Hen harrier, Merlin, Peregrine falcon and European golden plover. Overwintering populations of Hen harrier.
North Bull Island	SPA	Ireland	Article 4.1 Overwintering Golden Plover, Bar-tailed Godwit, Ruff and Short-eared Owl. Article 4.2 Overwintering Brent Geese, Shelduck, Wigeon, Teal, Pintail, Mallard, Shoveller, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone, Black-headed Gull, Common Gull, Little Stint, Curlew Sandpiper, Spotted Redshank
North Colonsay and Western Cliffs	SPA	UK	Breeding populations of Red-Billed chough. Overwintering populations of Red-Billed chough, 30,000 seabirds (Article 4.2) including Black-legged kittiwake and Common guillemot during breeding season.
Oronsay and South Colonsay	SPA	UK	Breeding populations of Corncrake and Red-billed chough. Overwintering populations of Red-billed chough.
Outer Ards	SPA	UK	Breeding populations of Arctic tern. Article 4.2 overwintering populations

Capabilities on project:
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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			of Ruddy turnstone, Light-bellied Brent goose and Ringed plover.
Pettigo Plateau Nature Reserve	SPA	Ireland	Article 4.1 wintering populations of white fronted goose, breeding populations of golden plover and resident populations of Hen harrier and Merlin.
Pettigoe Plateau	SPA	UK	Article 4.1 breeding population of golden plover.
Poulaphouca Reservoir	SPA	Ireland	Article 4.1 wintering populations of whooper swan. Article 4.2 wintering populations of Grey lag goose, wigeon, teal, mallard, goldeneye, great crested grebe, great cormorant, black-headed gull, common gull and Curlew,
Rathlin Island	SPA	UK	Breeding populations of Peregrine falcon. Article 4.2 breeding populations of Razorbill, Black-legged kittiwake and Common guillemot.
Renfrewshire Heights	SPA	UK	Breeding populations of Hen harrier.
Rinns of Islay	SPA	UK	Breeding population of Hen harrier, Corncrake and Red-billed chough. Overwintering populations of Greenland white-fronted goose. On passage the area regularly supports Whooper swan. Article 4.2 breeding populations of Common scoter.
River Boyne and River Blackwater	SPA	Ireland	Article 4.1 Breeding Kingfisher. Article 4.2 Overwintering Teal, Mallard, Cormorant, Grey Heron
River Nanny Estuary and Shore	SPA	Ireland	Article 4.1 Overwintering Golden Plover and Bar-tailed Godwit. Article 4.2 Overwintering Cormorant, Brent Goose, Mallard, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Knot, Sandpiper, Dunlin, Curlew, Redshank, Black-headed Gull, Common Gull, Turnstone, Herring Gull
Roaninish	SPA	Ireland	Article 4.1 breeding populations of storm petrel, Barnacle goose and Artic tern. Article 4.2 breeding populations of Great cormorant.
Rockabill	SPA	Ireland	Article 4.1 Breeding Common Tern, Roseate Tern and Arctic Tern. Article 4.2 Breeding Black-legged Kittiwake
Rogerstown Estuary	SPA	Ireland	Article 4.1 Overwintering Golden Plover. Breeding Little Tern. Article 4.2 Overwintering Greylag Goose, Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveller, Goosander, Oystercatcher, Grey Plover, Ringed Plover, Lapwing, Knot, Sanderling, Dunlin, Common Snipe, Black-tailed Godwit, Curlew, Redshank, Greenshank, Turnstone.
Sheep Island	SPA	UK	Article 4.2 breeding populations of Great cormorant.
Sheskinmore Lough	SPA	Ireland	Article 4.1 wintering populations of white fronted goose, Barnacle goose and hen harrier. Resident population of red billed chough. Article 4.2 breeding populations of northern lapwing.
Skerries Islands	SPA	Ireland	Article 4.1 Overwintering Golden Plover and Short-eared Owl. Article 4.2 Breeding Northern Fulmar and Cormorant. Overwintering Cormorant, Brent Goose, Wigeon, Mallard, Oystercatcher, Ringed Plover, Grey Plover, Lapwing, Purple Sandpiper, Common Snipe, Curlew, Turnstone
Slieve Beagh	SPA	Ireland	Article 4.1 Resident Hen Harrier. Breeding Merlin.
Slieve Beagh -	SPA	UK	Breeding populations of Hen harrier.

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Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
Mullaghfad - Lisnaskea			
Sligo/Leitrim Uplands	SPA	Ireland	Article 4.1 breeding populations of peregrine falcon and red billed chough.
South Dublin Bay and River Tolka Estuary	SPA	Ireland	Article 4.1 Overwintering Bar-tailed Godwit and Mediterranean Gull, Common Tern, Roseate Tern, Arctic Term. Article 4.2 Overwintering Great-crested Grebe, Cormorant, Brent Goose, Red-breasted Merganser, Oystercatcher, Ringed Plover, Grey Plover, Knot, Sanderling, Curlew, Turnstone, Black-headed Gull, Common Gull, Redshank, Dunlin
Stabannan-Braganstown	SPA	Ireland	Article 4.1 Overwintering Whooper Swan, Bewick's Swan, Greenland White-fronted Goose, Golden Plover. Article 4.2 Overwintering Greylag Goose and Lapwing
Strangford Lough	SPA	UK	Breeding populations of Common tern, Arctic tern and Sandwich tern. Article 4.2 overwintering populations of Light-bellied Brent goose, Red knot and Common redshank. 70,200 waterfowl (Article 4.2) including Light-bellied Brent goose, Red knot and Common redshank during the winter.
The Murrough	SPA	Ireland	Article 4.1 Overwintering Red-throated diver, Egret, Whooper swan, Golden plover, Cormorant, Sandwich tern, Little tern, Short-eared Owl, Kingfisher, White fronted goose. Article 4.2 Overwintering Little grebe, Cormorant, Grey Heron, Greylag Goose, Brent Goose, Shelduck, Wigeon, Teal, Mallard, Shoveller, Gadwall, Ringed Plover, Lapwing, Little Stint, Curlew Sandpiper, Dunlin, Curlew, Redshank, Greenshank, Green Sandpiper, Turnstone, Black-headed Gull, Herring Gull. Breeding Reed Warbler
The Oa	SPA	UK	Breeding populations of Red-billed chough.
Tory Island	SPA	Ireland	Article 4.1 Breeding European Storm Petrel, Little Tern, Corncrake. Article 4.2 Breeding Northern Fulmar, Black-headed Gull, Common Gull, Kittiwake, Guillemot, Razorbill, Puffin, Oystercatcher, Ringed Plover, Lapwing, Common Snipe and Redshank. Resident Peregrine falcon and Chough.
Traeth Lafan/Lavan Sands, Conway Bay	SPA	UK	Overwintering populations of Oystercatcher and Eurasian curlew. Passage populations of Great crested grebe.
Trawbreaga Bay	SPA	Ireland	Article 4.1 Overwintering Barnacle Goose, Whooper Swan and Bar-tailed Godwit. Article 4.2 Overwintering Brent Goose, Wigeon, Mallard, Red-breasted Merganser, Oystercatcher, Ringed Plover, Lapwing, Dunlin, Curlew, Redshank, Black-headed Gull and Common Gull
Upper Lough Erne	SPA	UK	Article 4.1 wintering populations of whooper swan.
Upper Solway Flats and Marshes	SPA	UK	Overwintering population of Barnacle goose, Whooper swan, Bar-tailed godwit and European golden plover. Article 4.2 overwintering populations of Northern pintail, Northern shoveler, Eurasian teal, Pink-footed goose, Ruddy turnstone, Greater scaup, Common goldeneye, Sanderling,

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			Dunlin, Red knot, Eurasian oystercatcher, Eurasian curlew, Grey plover, Common shelduck and Common redshank. 133,440 waterfowl (Article 4.2).
West Donegal	SPA	Ireland	Article 4.1 resident population of merlin and red-billed chough. Article 4.2 breeding populations of northern fulmar, great cormorant, shag, Herring gull, kittiwake, razorbill and guillemot.
West Donegal Islands	SPA	Ireland	Article 4.1 breeding populations of barnacle goose, artic tern and corn crake. Article 4.2 breeding populations of shag, common gull and herring gull
Wicklow Head	SPA	Ireland	Article 4.2 Breeding Northern fulmar, Kittiwake, Guillemot and Razorbill.
Wicklow Mountains	SPA	Ireland	Article 3.1 resident Peregrine falcon, Merlin. Article 4.2 Breeding Redstart, Wood Warbler, Ring Ouzel, Garden Warbler, Blackcap and Whinchat
Ynys Feurig, Cemlyn Bay and The Skerries	SPA	UK	Breeding populations of Roseate tern, Common tern, Arctic tern and Sandwich tern.
Ynys Seiriol / Puffin Island	SPA	UK	Article 4.2 breeding populations of Great cormorant.
Ramsar			
Baldoyle Bay	Ramsar	Ireland	Sand dune system, mudflats exposed at low tide and extensive beds of Spartina. Wintering Brent goose and nationally important waterbirds.
Ballynahone Bog	Ramsar	UK	Ramsar Criterion 1 - Site is a large and relatively intact example of a lowland raised bog and one of the best examples of this habitat in the UK.
Belfast Lough	Ramsar	UK	Ramsar Criterion 6 - Peak spring/autumn counts of Common redshank and Black-tailed godwit (subsequent to designation).
Black Bog	Ramsar	UK	Ramsar Criterion 1 - Site is a large and relatively intact example of a lowland raised bog and one of the best examples of this habitat in the UK.
Bridgend Flats, Islay	Ramsar	UK	Ramsar Criterion 6 - Peak winter counts of Barnacle goose.
Broadmeadow Estuary	Ramsar		Large sand spit, sand and mud flats, and a large bed of Eelgrass and Tassel Weed. Extensive mats of green algae. Cordgrass is also present. Dune has Marram grass (*Ammophila arenaria*). With lots of other grasses. Saltmarsh present at the tip of the spit. Important area for wintering birds. Maximum counts during 1984/85 - 1986/87 period were Brent geese (international significance), Great crested Grebe, Mute swan, Shelduck, Pochard, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Redshank, Wigeon, Teal, Ringed Plover, Knot, Dunlin and Greenshank. Migrating species such as Ruff, Curlew sandpiper, Spotted Redshank and Little stint. Breeding populations of Ringed plover, Shelduck and Mallard.
Carlingford Lough	Ramsar	UK	Ramsar Criterion 2 - Supports an important assemblage of vulnerable and endangered Irish Red Data Book bird species. The site supports

Site Name	Designation	Country	Interest Features for Which There is Likely Significant Effect (LSE)
			nationally important breeding populations of Common tern. Roseate terns returned to the site after an absence of six years with 2 breeding pairs recorded in 1997. In the recent past the site has also supported nationally important numbers of Arctic tern. Ramsar Criterion 6 - Peak winter counts of Light-bellied Brent goose.
Corsydd Môn a Llyn (Anglesey and Llyn Fens)	Ramsar	UK	Ramsar Criterion 1 - Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp., Northern Atlantic wet heaths with *Erica tetralix*, *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*), Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*, Alkaline fens, *Vertigo geyeri*, C*oenagrion mercuriale* and *Euphydryas* (*Eurodryas*, *Hypodryas*) *aurinia*. Ramsar Criterion 3 - The site supports a diverse flora and fauna with associated rare species and is of special value for maintaining the genetic and ecological diversity of the region.
Cuilcagh Mountain	Ramsar	UK	Ramsar Criterion 1: One of the best examples of Blanket Bog in the UK. Contains comparatively high altitude example of an oligotrophic lake. Ramsar criterion 2: Site supports an assemblage of rare, vulnerable or endangered species. Important upland breeding site for Golden plover. Merlin occurs at the site and occasionally feeding Greenland white fronted geese.
Dundalk Bay	Ramsar	Ireland	It regularly holds over 20,000 birds (up to 57,000 have been recorded), and supports over 1% of the NW European/E Atlantic Flyway populations of numerous species of waterbirds.
Eilean na Muice Duibhe (Duich Moss), Islay	Ramsar	UK	Ramsar Criterion 6 - Peak winter counts of Greenland white-fronted goose.
Fairy Water Bogs	Ramsar	UK	Ramsar Criterion 1: Large and relatively intact example of a lowland raised bog and one of the best examples in the UK
Fardrum and Roosky Turloughs	Ramsar	UK	Ramsar Criterion 1: Most northerly example of turlough in Ireland with distinctive, naturally impoverished vegetation communities
Garron Plateau	Ramsar	UK	Ramsar Criterion 1 - Site is a blanket bog which contains nationally important examples of transitional and alkaline fen and oligotrophic/mesotrophic lakes. Ramsar Criterion 2 - Area supports at least six species listed in the Irish Red Data Book-Vascular Plants and up to five species of birds (one of which breeds in nationally important numbers) which are listed in the Irish Red Data Book.
Garry Bog	Ramsar	UK	Ramsar Criterion 1 - Site is a large and relatively intact example of a lowland raised bog and one of the best examples of this habitat in the UK.
Gruinart Flats	Ramsar	UK	Ramsar Criterion 6 - Passage during the spring and autumn populations of Light-bellied Brent goose and wintering populations of Greenland white-fronted goose and Barnacle goose.
Killough Bay	Ramsar		Ramsar Criterion 6 - Peak winter counts of Light-bellied Brent goose.

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Kintyre Goose Roosts	Ramsar	UK	Ramsar Criterion 6 - Peak winter counts of Greenland white-fronted goose.
Larne Lough	Ramsar	UK	Ramsar Criterion 2 - supporting an important assemblage of vulnerable and endangered Irish Red Data Book bird species. The site regularly supports nationally important numbers of breeding populations of the following species: Roseate tern and Common tern. Ramsar Criterion 6 - Peak winter counts of Light-bellied Brent goose.
Loch Ken and River Dee Marshes	Ramsar	UK	Ramsar Criterion 2 - Supports an assemblage of at least four nationally scarce species of aquatic plant and an assemblage of at least three British Red Data Book aquatic invertebrates. Ramsar Criterion 6 - Peak winter counts of Greenland white-fronted goose and Greylag goose.
Loch of Inch and Torrs Warren	Ramsar	UK	Ramsar Criterion 1 - Outstanding examples of sand dune and dune slack habitats in the dune system at Torrs Warren. Ramsar Criterion 6 - Peak winter counts of Greenland white-fronted goose.
Lough of Barra Bog	Ramsar	Ireland	Extensive area of lowland blank bogs which is one of the most northerly in the country. Contains an assemblage of plants. Merlin breeds at the site. Wintering populations of Greenland White-fronted Geese.
Lough Derravaragh	Ramsar	Ireland	Big range of aquatic lower plant (*Charophyte*) species. Reedbeds and swamps. Freshwater marsh vegetation. Small areas of raised bogs adjoin the lake. Deciduous woodland are in the area. Chara denudata, an aquatic *charophyte* species, has been recorded in Lough Derravaragh. This rare plant occurs in only five sites in Co. Westmeath, is restricted to highly calcareous lakes and is intolerant of pollution. Nationally important numbers of Pochard, Tufted duck, coot and mute swan. 3 species of insects. Site is valuable for the Otter. Brown trout
Lough Ennell	Ramsar	Ireland	Much of the lake shore is dry and colonised by calcareous grassland. Wet marshy patched along the shore. Reedbeds and species poor swamp vegetation fringe the lake. Common reed abundant. Mixed woodland fringes the lake. A blue-green alga which forms little pebbles of lime which are cast on the lakeshore occurs in Lough Ennell and has not been recorded elsewhere in Ireland. Yellow Archangel (Lamiastrum galeobdolon), a rare plant listed in the Red Data Book, has been recorded at the site. Internationally important Greenland white-fronted goose visit the lake. Nationally important populations of Cormorant, Mute swan, Pochard, Tufted duck and coot. A regionally important population of Golden plover present.
Lough Foyle	Ramsar	UK	Ramsar Criterion 1 - Area has extensive intertidal sand and mudflats with seagrass beds, saltmarshes and estuaries. Ramsar Criterion 2 - Supports rare and endangered species including Sea lamprey, Allis shad, Twaite shad and spawning Atlantic salmon. Site also supports populations of

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			Smelt which is found in the Red Data Book. Ramsar Criterion 3 - Wintering waterfowl including Whooper swan, Light-bellied Brent goose, Bar-tailed godwit, Red-throated diver, Great crested Grebe, Bewick's Swan, Greylag goose, Shelduck, Teal, Mallard, Wigeon, Eider, Red-breasted Merganser, Oystercatcher, Golden plover, Grey plover, Lapwing, Knot, Dunlin, Curlew, Redshank and Greenshank. Ramsar Criterion 6 - Passing populations of Whooper swan and Light-bellied Brent goose during spring and autumn. During the winter populations of Bar-tailed godwit come to the site. Noteworthy features are wintering populations of Slavonian grebe spring/autumn populations of Great cormorant, Ringed plover, Ruff ,Whimbrel , Common greenshank and Mew gull.
Lough Glen	Ramsar	Ireland	Sedge domination freshwater marsh occupies the majority of what was once open water. Internationally significant numbers of Whooper swan but numbers are reducing as flooding at the site in rare and short lived. Irregular numbers of Greenland White Fronted Geese. Other habitats of note at the site include Reedswamp, dry and wet grassland vegetation, cutaway bog wet willow woodland and exposed rock and fen.
Lough Iron	Ramsar	Ireland	Freshwater marsh and wet grassland, dominant marsh species are Canary Reed Grass (*Phalaris acumdinacea*) and Purple Moor Grass (Molinia caerulea), the latter species farming large expanses of wet grassland. Site is one of the most important site for wildfowl in the midlands. Large numbers of snipe and duck. Internationally important numbers of Greenland White fronted geese, and Whooper swans present during the winter.
Lough Neagh and Lough Beg	Ramsar	UK	Ramsar Criterion 1 - Largest freshwater lake in the UK. Ramsar Criterion 2 - Supports assemblage of rare and/or vulnerable flora and fauna. Ramsar Criterion 3 - A large number of plants and animals species are confined or almost confined to this area. Criterion 4 - Site supports an assemblage of internationally important breeding populations of Great Crested grebe, Gadwall, Pochard, Tufted Duck, Snipe and Redshank, Shelduck, Teal, Shoveler, Lapwing and Curlew. Ramsar Criterion 5 - 86,639 waterfowl of international importance. Ramsar Criterion 6 - Passing populations of Whooper swan, Common pochard, Tufted duck and Common goldeneye. Passing population in spring and autumn of Tundra swan with future considerations given to the Great cormorant and Mute swan. Winter populations of the Greater scaup. Noteworthy features - Breeding populations, Black-headed gull, Lesser black-backed gull, Common tern. Spring and autumn populations, Mallard, Red-breasted merganser , Common coot and Lesser black-backed gull. Wintering populations - Little grebe, Eurasian wigeon , European golden plover and Mew gull. Ramsar Criterion 7 - Site supports a population of pollan,

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			which is one of the most important species in terms of faunal biodiversity in Ireland as it is found nowhere else in Europe.
Lough Oughter	Ramsar	Ireland	Site supports variety of specialist plant species such as Amphibious bistort (*Polygonum amphibium*) and marsh foxtail (*Alopecurus geniculatus*), as well as rarer species such as needle spike-rush (*Eleocharis acicularis*) and lesser marshwort (*Apium inundatum*).The lakes and basins are shallow, and the water well mixed with varied aquatic flora. Around much of the shoreline there are well developed swamp and marsh communities. Site supports substantial population of waterbirds including internationally important numbers of whooper swan (3% of the total European population) and nationally important numbers of tufted duck and cormorant. There are also important numbers of great crested grebe, wigeon, teal and pochard. Lapwing and Golden plover have also been observed at the site.
Lough Owel	Ramsar	Ireland	The best example of a large, spring-fed calcareous lake in the country. Areas of marsh and fen. The area contains some rare plant species, namely marsh pea (Lathyrus palustris), marsh fern (Thelypteris palustris) and the protected round-leaved wintergreen (Pyrola rotundifolia). Farmland adjacent to the lake importing for internationally important numbers of Greenland white fronted goose.
Magheraveeley Marl Lough	Ramsar	UK	Ramsar Criterion 1: Represent a rare wetland type. Ramsar criterion 2 support vulnerable vegetation communities and species which reflects the calcareous condition such as *Chara aspera, C. curta, C. hispida, C. pedunculata and C*. *Rudis.* The Lough is surrounded by scarce species in Northern Ireland such as sedge species, marsh grasses and fen.
Meenachullion Bog	Ramsar	Ireland	Area of lowland blanket bog and apart of the headwaters of a major tributary of the Gweebarra river. Grassy heath and fenland with several small pool and lake complexes. Breeding birds at the site including the globally vulnerable Greenland white fronted goose.
North Bull Island	Ramsar	Ireland	Well-developed saltmarsh and dune system. The area is important for nesting Little tern and for numerous species of wintering waterbirds.
Outer Ards	Ramsar	UK	Ramsar Criterion 6 - Peak winter counts of Light-bellied Brent goose, Ringed plover, European golden plover and Ruddy Turnstone.
Pettigo Plateau	Ramsar	Ireland	Excellent example of highland blanket bog. Nationally rare bog type covering low hills and broad basin and contains numerous nutrient poor and acidic lakes and pools. Feeding and roosting site for wintering flocks of the globally vulnerable Greenland white fronted goose and a breeding site for Golden Plover.
Pettigoe Plateau	Ramsar	UK	Ramsar criterion 1: Particular good example of blanket bog and exhibits the full range of characteristic vegetation and structural features associated with this type of habitat. Ramsar Criterion 2: Site supports an

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			important assemblage of vulnerable and endangered bird species. Site regularly supports nationally important numbers of breeding golden plovers
Rinns of Islay	Ramsar	UK	Ramsar Criterion 1 - Site contains peat lands and wetlands of interest, including blanket mires of extreme oceanic character. Ramsar Criterion 3 - Site supports a peat land flora of exceptional interest which includes some scarce wetland species and the site supports a diverse assemblage of breeding waders on the wet grasslands and peat land. Breeding population of Hen Harrier. Ramsar Criterion 6 - Passage of Whooper swan in spring/autumn. There are also wintering populations of Greenland white-fronted goose and Barnacle goose. Noteworthy breeding population of Razorbill.
Rogerstown Estuary	Ramsar	Ireland	Mud and sand flats which are not covered at low tide. Important wintering area for waterfowl, including Pale-bellied Brent goose.
Sandymount Strand/Tolka Estuary	Ramsar	Ireland	Extensive sandy flats, seagrass beds. Site is important for various species of waterbirds, supporting internationally important numbers of Brent goose and large numbers of roosting gulls and terns.
Silver Flowe	Ramsar	UK	Ramsar Criterion 1 - Contains one of the most outstanding examples of patterned mire and blanket bog in Great Britain. Noteworthy fauna: otter.
Slieve Beagh	Ramsar	UK	Ramsar Criterion 1 - Site is a large and relatively intact example of a blanket bog and one of the best examples of this habitat in the UK. It also contains nationally important examples of transitional and alkaline fen and oligotrophic/mesotrophic lakes.
Strangford Lough	Ramsar	UK	Ramsar Criterion 1 - Site supports a variety of important wetland features. Areas of fringing saltmarsh and freshwater habitats support a diversity of wetland plant species. Strangford Lough supports one of the most extensive saltmarsh areas in Northern Ireland. Ramsar Criterion 2 - Supports an important assemblage of vulnerable and endangered wetland plants and animal species. The mudflats support luxuriant beds of eelgrass; *Zostera noltei*, *Zostera angustifolia*, *Zostera marina* and *Ruppia maritima* are all present, with the latter widespread but quite local in its distribution. Such extensive 'beds' are rare in the British Isles. Ramsar Criterion 5 - 74,876 waterfowl in the winter. Ramsar Criterion 6 - Species regularly supported during the breeding season: Sandwich tern and Common tern. Peak spring/autumn counts of Light-bellied Brent goose and Common redshank. Peak winter grounds of red knot and Common shelduck (possible future consideration).
Trawbreaga Bay	Ramsar	Ireland	A sheltered sea bay with no large rivers entering it. The sandy mud supports relatively small numbers of birds but there is a large variety in species including Barnacle geese, Brent geese and Common ringed plover.

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Turmennan Lough	Ramsar	UK	Ramsar Criterion 1 - A lowland valley mire with a range of edaphic conditions.
Upper Lough Erne	Ramsar	UK	Ramsar Criterion 1: Eutrophic lake and associated swap, fen and wet grassland; Ramsar Criterion 2: Site supports assemblages of rare, vulnerable or endangered species or subspecies of plant and animal. Plant species include Fen violet, Irish lady's tresses, pointed stonewort and a moss species. Vertebrates include Whiskered bat, shoveler, pochard and brook lamprey. White clawed crayfish, lunar hornet moth, pondskater and water beetles and a carabid species is also present at the site; Ramsar criterion3: maintains genetic and ecological diversity by having large number of and quality of flora and fauna. Large number of plant and animal species are confined to this area. Site regularly supports substantial numbers of waterfowl. Wintering wildfowl species which occur at least nationally important numbers include great crested grebe, cormorant, whooper swan, mute swan, tufted duck, wigeon, teal, goldeneye, coot and mallard; Ramsar criterion 6: Internationally important numbers of wintering whopper swan.
Upper Solway Flats and Marshes	Ramsar	UK	Ramsar Criterion 2 - Supports over 10% of the British population of natterjack toad (Habitats Directive Annex IV species (S1202)). Ramsar Criterion 5 - 135,720 waterfowl in the winter. Ramsar Criterion 6 - Peak winter counts of Pink-footed goose, Barnacle goose, Northern Pintail, Red knot, Dunlin, Bar-tailed godwit, Eurasian curlew and Common redshank. Peak spring/autumn counts of Ringed plover.