FEHILY TIMONEY

DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

MEATH COUNTY COUNCIL LOCAL AUTHORITY BIODIVERSITY ACTION PLAN 2025-2030

Appropriate Assessment Screening Report

Prepared for:

Meath County Council

comhairle chontae na mí
meath county council

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Local Authority Biodiversity Action Plan AA Screening Report for Meath County Council

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Abstract: Fehily Timoney and Company is pleased to submit this AA Screening Report to Meath County Council for their Local Authority Biodiversity Action Plan.

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1. INTRODUCTION

1.1 Introduction

Fehily Timoney and Company (FT) was commissioned by Meath County Council to prepare an Appropriate Assessment Screening Report for their Local Authority Biodiversity Action Plan (LABAP) for the years 2025-2030. The aim of the LABAP is to promote biodiversity conservation at local authority level.

This report presents an examination of whether the LABAP is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is based on best available scientific knowledge. This report has been prepared to inform the competent authority in completing their statutory obligations in relation to Appropriate Assessment, as required by Article 6(3) under Council Directive 92/43/EEC (Habitats Directive).

1.2 Background to Biodiversity Action Plans

LABAPs must be prepared in accordance with The Heritage Council's Local Authority Biodiversity Action Plan Guidelines (2024). Thes guidelines provide best practice guidance to local authorities on preparing and implementing biodiversity conservation actions within their functional area. These guidelines advise that LABAPS 'should aim to record, conserve, restore and promote biodiversity, and to increase awareness, understanding and appreciation of it among the people of the area.'

LABAPS are designed to provide a structured approach to biodiversity conservation at local level. Local authorities are required to develop a compelling vision for their LABAP and a set of clear, measurable and achievable objectives for biodiversity conservation in their functional area. LABAPs are developed by local authority Biodiversity Officers with the support of a dedicated Biodiversity Working Group. Public engagement and consultation must be undertaken at the Pre-draft and Draft Plan stages of the Plan-making process. All submissions from stakeholders and members of the public should be considered during the development of a LABAP.

LABAPs should serve to define targeted and focussed action for promoting biodiversity conservation through the functions of a local authority in alignment with nature legislation and higher order policy such as the 4th National Biodiversity Action Plan and inter-related policy. LABAPs should be in harmony with and support the land use planning framework, including City and County Development Plans and Local Area Plans.

LABAPs are non-statutory land use plans that should be screened for the need for SEA and AA.

1.3 Legislative Context

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) provides legal protection for habitats and species of European importance. The Directive requires that where a plan or project is likely to have a significant effect on a European Site, while not directly connected with or necessary to the nature conservation management of the site, it will be subject to 'Appropriate Assessment' to identify any implications for the European site in view of the site's Conservation Objectives. Specifically, Article 6(3) of the Habitats Directive states:

> *"6(3) Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and the Planning and Development Act 2000 (as amended).

The competent authority must carry out a screening for appropriate assessment to assess, in view of best scientific knowledge, if the proposed plan, individually or in combination with another plan or project is likely to have a significant effect on the European site. If it cannot be excluded, on the basis of objective information, that the proposed plan, individually or in combination with other plans or projects, will have a significant effect on a European site, an appropriate assessment of its implications for the European Site(s) in view of the Site's conservation objectives must be carried out.

The provisions of Article 6(3) do not apply where the proposed plan or project is 'connected with or necessary to the management of the site'. In this case, the plan is not directly connected with or necessary to the management of any European site(s).

1.4 Guidance

The assessment was conducted in accordance with the following guidance:

- Fossitt, J. A. (2000). A guide to habitats in Ireland. Heritage Council/Chomhairle Oidhreachta.
- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. National Parks and Wildlife Service (NPWS), Department of the Environment, Heritage and Local Government, Dublin (2009, updated 2010);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission 2013;
- Scottish Natural Heritage. (2016). Assessing Connectivity with Special Protection Areas (SPAs) Guidance.
- Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission (2019). Brussels, (2019/C 33/01). OJ C 33, 25.1.2019.
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (European Commission, 2002). This document was updated by Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Commission Notice (2021) Brussels, 28.9.2021 C (2021) 6913 final;
- OPR Practice Note PN01 Appropriate Assessment Screening for Development Management, Office of the Planning Regulator (2021).
- Atkinson, S., Magee, M., Moorkens, E.A. & Heavey, M. (2024). Guidance on Assessment and Construction Management in Margaritifera Catchments in Ireland. https://e-mussels.eu/europe/conservation-guidelines

1.5 Assessment Process and Approach

The process of determining the likelihood of significant effects from a proposed plan or project on European sites is an iterative process centred around a Source-Pathway-Receptor (S-P-R) model. In order for an effect to be established, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) – e.g., pollutant run-off, noise, removal of vegetation etc.;
- Pathway(s) – functional link, or ecological pathway e.g., groundwater connecting to nearby qualifying wetland habitats; and,
- Receptor(s) –the qualifying habitats and species of European sites and ecological resources supporting those habitats/species.

In the context of this report, a source is any identifiable element of the proposed plan that is known to interact with the receiving environment. A receptor is the Qualifying Interests (QI)[1] for an SAC or Special Conservation Interests (SCI)[2] for an SPA or an ecological feature that is known to be utilised by the QI/SCI. In practice, the term Qualifying Interests also applies to SCIs (and is used in this document for simplicity). A pathway is any connection or link between the source and the receptor.

The assessment commences with a description of the plan, and the associated sources for impacts to the receiving environment. The type of impacts that are likely due to the plan (Source) are identified having regard to the spatial and temporal scale of the plan, resource requirements and likely emissions. These sources are then used to define the zone of influence (ZoI) of the plan.

The European Commission Notice (2021) on the 'Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC, states that in identifying European sites (Natural 2000 sites), which may be affected by a plan or project, the following should be identified:

- Any European sites geographically overlapping with any of the actions or aspects of the plan or project in any of its phases, or adjacent to them;
- Any European sites within the likely zone of influence of the plan or project. European sites located in the surroundings of the plan or project (or at some distance) that could still be indirectly affected by aspects of the plan project, including as regards the use of natural resources (e.g., water) and various types of waste, discharge or emissions of substances or energy;
- European sites whose connectivity or ecological continuity can be affected by the plan or project.

[1] SACs are areas designated under the Habitats Directive to conserve habitats listed in Annex I of the Directive and plant and animal species listed in Annex II. Collectively these are referred to as the 'Qualifying Interests' or 'QIs' of the SAC.
[2] SPAs are sites classified under the Birds Directive to protect rare or vulnerable bird species listed in Annex I to the Directive as well as regularly occurring migratory species and wetlands. Wetland habitats that support internationally important populations of migratory birds may be coastal or inland. Collectively, these species and habitats are referred to as the 'Special Conservation Interests' of the SPA.

The zone of influence of a plan is the geographical area over which it could affect the receiving environment in a way that could have potential effects on the Qualifying Interests of a European site. The OPR (2021) practice note states that the Zone of Influence must be established on a case-by-case basis using the Source-Pathway-Receptor (S-P-R) framework and not by arbitrary distances (such as 15 km). Section 3.3 sets out the detailed rationale for the identification of relevant European sites within the ZoI based on the sources of impacts arising from the proposed plan. Subsequently, an assessment is undertaken with respect to potential connectivity (Pathways) to European Sites and their qualifying interests/special conservation interests are identified.

The potential for in-combination effects with other plans and projects is also assessed having regard to the identified impacts of the proposed plan along the ecological pathways identified to European sites.

The likelihood of significant effects on the European Sites within the ZoI is examined having regard to the sensitivity of each European site with pathways for impacts associated with the proposed plan on its own and in combination with other plans and projects.

Having regard to the European Commission Communication on the Precautionary Principle (European Commission, 2021) the:

> *"absence of scientific evidence on the significant negative effect of an action cannot be used as justification for approval of this action. When applied to Article 6(3) procedure, the precautionary principle implies that the absence of a negative effect on Natura 2000 sites has to be demonstrated before a plan or project can be authorised. In other words, if there is a lack of certainty as to whether there will be any negative effects, then the plan or project cannot be approved."*

Where significant effects are determined to be likely, or where there is uncertainty regarding the likelihood of significant effects, the plan will be required under law to be subjected to Appropriate Assessment.

2. DESCRIPTION OF THE LOCAL AUTHORITY BIODIVERSITY ACTION PLAN

2.1 Local Authority Biodiversity Action Plan

The overarching aim of the LABAP is to record, conserve, restore and promote biodiversity, and to increase awareness, understanding and appreciation of it among the people of the area.

The following Themes are defined in the LABAP:

- Reaching a deeper spatial understanding of nature in Meath.
- Leading the way - policy, planning and practice.
- Action for biodiversity.
- Research and monitoring.
- Raising awareness and appreciation of biodiversity.

A series of Actions have been defined in the LABAP under each Theme. The higher-level Themes are broader in scope, while the Actions underpinning the Themes are more defined and measurable. These are presented in Table 2-1.

Table 2-1: LABAP Themes and Actions

Theme	Sub-Theme	Action Code	Action
1. Reaching a deeper spatial understanding in County Meath.		1	Undertake a state of knowledge exercise of biodiversity in County Meath.
		2	Undertake a countywide wetland resurvey and mapping project, building on the information garnered from the County Meath Wetlands and Coastal Habitats Survey (2010).
		3	Undertake a countywide resurvey and mapping project of Meath's trees, woodlands and hedgerows, building on the baseline information garnered from the County Meath Tree, Woodland and Hedgerow Survey (2010).
		4	Undertake a countywide survey and mapping project of Meath's semi-natural grassland habitats.
		5	Using an evidence based approach, create a detailed geodatabased 'Site Inventory' of designated and non-designated sites of high intrinsic biodiversity value within County Meath.
		6	Using an evidence based approach, identify and map Locally Important Biodiversity Sites (LIBS) in County Meath, according to Heritage Council guidelines, to ensure their continued protection through existing or new policies in the County Development Plan.
2. Leading the way – policy, planning and practice.	Policy	7	Align the Meath County Development Plan, all area plans and the Meath Biodiversity Action Plan with the objectives of the National Biodiversity Action Plan, where relevant.
		8	Devise and support the implementation of good governance strategies to facilitate the integration of EU and national biodiversity legislation and policy requirements into Council plans, projects, and services, where relevant.
		9	Support the implementation of the Birds and Habitats Directives in protecting, and where possible, in achieving an improvement in the conservation status of protected species and habitats in County Meath.
		10	Support the review and update of policies, objectives and development management standards in the Meath County Development Plan.
		11	Work with the relevant authorities to support the preparation of, and implement, Ireland's Nature Restoration Plan, when adopted, and where relevant for Meath County Council, to help achieve national restoration targets.
		12	Identify locally important breeding sites in County Meath for select rare and threatened species, such as the Swift & Barn Owl, and ensure these are mapped and protected through inclusion of policies and objectives in the County Development Plan.

Theme	Sub-Theme	Action Code	Action
		13	Promote a policy to ensure the purchase and use of native hedge and tree stock of local provenance where possible in plans and projects and avoid the use of species classified as 'invasive' such as Cherry Laurel.
	Planning	14	Provide a central place for all biodiversity data for decision-makers in Meath County Council.
		15	Develop and implement a Green Infrastructure Strategy in accordance international best practice and emerging national guidance.
		16	Support habitat retention and the integration of biodiversity measures into plans and the design and delivery of public projects and private developments, aiming for no net loss of biodiversity and biodiversity net gain where possible.
		17	Support the integration of nature-based solutions into plans and the design and delivery of public projects and private developments.
		18	Align public projects and private developments with Inland Fisheries Ireland's guideline document 'Planning for Watercourses in the Urban Environment' and update development management standards as appropriate.
		19	Apply appropriate lighting specifications and mitigation measures to new development, new projects, lighting upgrades and existing lighting stock, as appropriate, to minimise disturbance to local biodiversity.
		20	Protect existing Swift nesting sites where possible, establish new sites in existing public and private properties; and request integration of artificial swift nest bricks & boxes in new development.
		21	Develop and provide guidance on the management of biodiversity issues for developers in the planning process.
		22	Pilot an Urban Nature Plan for Navan.
	Practice	23	Adopt and implement a pesticide reduction strategy within Meath County Council.
		24	Develop a training programme for Meath County Council staff.
		25	Produce Biodiversity Best Practice Guidelines for staff across all sections of the local authority.
		26	Engage with neighbouring local authorities on biodiversity projects that require a landscape and/or catchment scale approach.

Theme	Sub-Theme	Action Code	Action
		27	Provide updates to the Meath Biodiversity Working Group on unauthorised developments impacting the integrity and ecological health of protected and Locally Important Biodiversity Sites, where possible.
		28	Pilot a biodiversity inclusive design for a social housing estate, prioritising retention of pre-existing habitats and a number of other possible actions such as the regeneration of semi-natural grasslands, installation of blue/green roofs, green walls, wetland & pond SUDS, green carparking, nest boxes in facades and wildlife friendly shrubs and trees in open space.
		29	Continue to deliver local authority led actions in relation to monitoring, protection and the restoration of ecological status of waterbodies in County Meath.
		30	Implement the AII-Ireland Pollinator Plan as part of Meath County Council's partnership agreement with the National Biodiversity Data Centre.
		31	Develop biodiversity management plans for select open spaces / parks / greenways within local authority ownership, focusing initial pilots on Blackwater Park and the Boyne Valley to Lakelands Greenway.
3. Action for biodiversity.		32	Where possible, support Inland Fisheries Ireland in the removal/alteration of disused weirs to facilitate migration.
		33	Where possible, work with relevant partners to protect and/or restore high ecological status waterbodies in County Meath and along its borders.
		34	Plant native woodland on appropriate local authority owned sites.
		35	Facilitate the planting of groups of native trees within the boundary/built footprint of existing built-up areas.

Theme	Sub-Theme	Action Code	Action
		36	Assess the feasibility of developing a native tree nursery and outdoor classroom space on a local authority owned site with a view to rearing stock of local provenance that can supply local projects and initiatives.
		37	Continue to implement biodiversity and habitat management measures recommended for Balrath Woods.
		38	Continue and expand biodiversity-friendly grassland management practices which benefit biodiversity on the Commons of Lloyd and seek to implement similar practices on other public lands.
		39	Continue to work in partnership with relevant stakeholders on a suitable peatland site(s) to demonstrate best practice in sustainable peatland conservation, management and restoration techniques and to promote their heritage and educational value.
		40	Support the implementation of projects which promote the conservation of County Meath's coastal dune habitats.
		41	Support local communities with the creation and implementation of Community Biodiversity Action Plans.
		42	Continue to deliver the Hare's Corner project.
		43	Continue to support Barn Owl conservation in County Meath in conjunction with partners.
4. Research and monitoring.		44	Implement ecological surveys targeting NHAs, pNHAs and non-designated sites in County Meath, where possible.
		45	Implement an annual programme of ecological surveys, climate change risk assessments and ecological conservation work, as necessary, on local authority owned lands.

Theme	Sub-Theme	Action Code	Action
		46	Explore opportunities to progress river restoration measures, natural water retention measures and nature-based solutions for integrated catchment management (NbS-ICM) in appropriate locations in the Boyne catchment, where feasible and in collaboration with relevant stakeholders.
		47	Consider projects that include the mapping, appropriate treatment and eradication where possible of Invasive Alien Species.
		48	Support and encourage the volunteer network and local communities to carry out biological recording and citizen science projects.
5. Raising awareness and appreciation of biodiversity.		49	Develop and implement an outreach and engagement programme for the general public.
		50	Facilitate and support a landowner and land manager network for those interested in farming sustainably and managing space for nature in the countryside.
		51	Explore the use of demonstration farm(s) for biodiversity conservation e.g. hedgerow management, field margins, river management, soil improvement, Integrated pest management, nest boxes etc.
		52	Produce Tree Planting and Management Guidelines for communities.
		53	Continue to work with the Meath County Council Culture and Creativity Team to promote biodiversity through creative projects, and with support from the Creative Ireland programme.
		54	Develop guidance and supports for schools and school teachers in County Meath relating to biodiversity.

2.2 Relationship with other relevant Plans and Programmes

The LABAP sits within a hierarchy of plans and has been informed by and is consistent with the aims and objectives of other plans, programmes and strategies developed at national, regional and local levels. These include, but are not limited to, the following:

National Level

- Project Ireland 2040: National Planning Framework (2018).
- Heritage Ireland 2030: A Framework for Heritage (2022).
- Heritage Council Strategic Plan 2023-2028 (2023).
- The 4th National Biodiversity Plan 2023 - 2030 (2024) (discussed further in Section 2.1.1 below).
- Climate Action Plan (2024).

Regional and Local Level

- Regional Spatial and Economic Strategy for the region.
- The County Development Plan for the local authority functional area.
- The Local Authority Climate Action Plan for the local authority functional area.
- The Heritage Plan for the local authority functional area.

2.2.1 The 4th National Biodiversity Action Plan 2023-2030

Ireland's 4th National Biodiversity Action Plan (NBAP) sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to protect and value nature. The aim is to ensure that every citizen, community, business, local authority, semi-state and state agency has an awareness of biodiversity and its importance, and of the implications of its loss, while also understanding how they can act to address the biodiversity emergency as part of a renewed national effort to 'act for nature.' This plan provides the overarching arching framework for delivering biodiversity conservation through LABAPs.

This National Biodiversity Action Plan 2023-2030 builds upon the achievements of the previous Plan. The five overarching objectives to address new and emerging issues include the following:

- Objective 1 - Adopt a Whole of Government, Whole of Society Approach to Biodiversity
- Objective 2 - Meet Urgent Conservation and Restoration Needs
- Objective 3 - Secure Nature's Contribution to People
- Objective 4 - Enhance the Evidence Base for Action on Biodiversity
- Objective 5 - Strengthen Ireland's Contribution to International Biodiversity Initiatives

The NBAP contains actions pertaining to the preparation to LABAPs under *Objective One: Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity* and *Objective Three: Secure Nature's Contribution to People*, including the following:

Table 2-2: NBAP Actions pertaining to the preparation to Local Biodiversity Plans

Action Number	Action
1C5	The Heritage Council will publish updated guidelines for the production of Local Biodiversity Action Plans and their integration with City and County Development Plans
1C6	All Local Authorities will have a Biodiversity Action Plan adopted by the end of 2026 which is subject to regular review and revision processes in line with relevant guideline standards
3A3	Local Authorities will work to identify and respond to opportunities for enhancing the biocultural value of GBUE through appropriate design strategies, the use of visual and performing arts, and enhancing equity of access and promoting use of GBUE by community groups, and integrating cultural services in local biodiversity action plans

Local Authorities are expected to align their LABAPs with national commitments defined in the NBAP to ensure a cohesive approach to biodiversity conservation across the country.

3. SCREENING FOR APPROPRIATE ASSESSMENT

3.1 Introduction to Screening

This section of the report examines if the plan is likely to have a significant effect upon European Sites from the plan, either alone or in combination with other projects or plans. The screening phase is progressed in the following stages. A series of questions are asked during the Screening Stage of the AA process in order to determine:

- Whether the plan or project introduces any sources of environmental or ecological impact
- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European Site.

Whether the plan or project will have a likely significant effect on a European Site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential effects.

Plans are screened out based on one or a combination of the following criteria:

- Where it can be shown that there are no sources of environmental impact associated with a plan or project.
- Where there are no pathways such as hydrological links between a plan or project area, and relevant European sites
- Where a European site is located at a distance from the plan or project area such that effects are not foreseen;
- Where known threats or vulnerabilities at a European site cannot be linked to potential effects that may arise from a plan or project.

3.2 Potential Interactions of the Proposed Plan on the receiving environment

Having regard to the European Commission (2021) guidance document and the OPR (2021) practice note, the potential impacts of the LABAP actions on the receiving environment at source are considered based (in Table 3-1) on the following criteria:

- Habitat destruction/fragmentation/deterioration;
- Surface water run-off carrying suspended silt and contaminants, into local watercourses;
- Changes to groundwater quality, yield and/or flow paths associated with the proposed project;
- Plan related activities (noise, vibration, lighting, human presence, structures, etc) leading to disturbance / displacement of species;
- Plan related activities leading to a reduction in species populations / density;
- Air pollution due to dust and other airborne emissions; and
- Disturbance and potential spread of invasive species

These impacts are further examined in defining the Zone of Influence (ZoI) of the plan to identify likely significant effects through the Source-Pathway-Receptor assessment (See Section 3.3).

Table 3-1: Identification of sources arising from the proposed plan that have potential for interactions with the receiving environment

Theme	Action Code	Action	Potential Sources of Impact
1. Reaching a deeper spatial understanding of nature in Meath.	1	Undertake a state of knowledge exercise of biodiversity in County Meath.	This action proposes the carrying out of baseline surveying in the plan area. Developing an understanding of biodiversity in County Meath will underpin and support effective implementation of plan and potentially lead to more focused and targeted biodiversity improvements. This action will not introduce a source of negative impact on the receiving environment.
	2	Undertake a countywide wetland resurvey and mapping project, building on the information garnered from the County Meath Wetlands and Coastal Habitats Survey (2010).	This action proposes the carrying out of further baseline surveying of wetlands in Meath. It will underpin and support effective implementation of the plan and potentially lead to more focused and targeted biodiversity improvements. It does not have the potential to generate any adverse environmental effects.
	3	Undertake a countywide resurvey and mapping project of Meath's trees, woodlands and hedgerows, building on the baseline information garnered from the County Meath Tree, Woodland and Hedgerow Survey (2010).	This action proposes the carrying out of further baseline surveying of trees, woodlands and hedgerows in Meath. It will underpin and support effective implementation of the plan and potentially lead to more focused and targeted biodiversity improvements. It does not have the potential to generate any significant adverse environmental effects on European sites.
	4	Undertake a countywide survey and mapping project of Meath's semi-natural grassland habitats.	This action proposes the carrying out of baseline surveying of semi-natural grasslands in Meath. It will underpin and support effective implementation of the plan and potentially lead to more focused and targeted biodiversity improvements. It does not have the potential to generate any significant adverse environmental effects on European sites.

Theme	Action Code	Action	Potential Sources of Impact
	5	Using an evidence based approach, create a detailed geodatabased 'Site Inventory' of designated and non-designated sites of high intrinsic biodiversity value within County Meath.	This action proposes the carrying out of a detailed biodiversity/site inventory survey in Meath. It will underpin and support effective implementation of the plan and potentially lead to more focused and targeted biodiversity improvements. It does not have the potential to generate any significant adverse environmental effects on European sites.
	6	Using an evidence based approach, identify and map Locally Important Biodiversity Sites (LIBS) in County Meath, according to Heritage Council guidelines, to ensure their continued protection through existing or new policies in the County Development Plan.	This action proposes the carrying out of ecological surveying of Locally Important Biodiversity Sites (LIBS) in Meath. It will underpin and support effective implementation of the plan and potentially lead to more focused and targeted biodiversity protection. It does not have the potential to generate any significant adverse environmental effects on European sites.
2. Leading the way – policy, planning and practice.	7	Align the Meath County Development Plan, all area plans and the Meath Biodiversity Action Plan with the objectives of the National Biodiversity Action Plan, where relevant.	This action will fully integrate the objectives of this Plan with higher-level Meath County Plans. Alignment of lower-order plans with higher-order plans avoids conflicts with targets/objectives, ensures compliance and contributes to the achievement of national targets and ambitions. It will contribute to the effective delivery of the plan and biodiversity improvements generally. The action will contribute to the effective delivery of the plan and biodiversity improvements generally. The action will not result in likely significant effects on European Sites.

Theme	Action Code	Action	Potential Sources of Impact
	8	Devise and support the implementation of good governance strategies to facilitate the integration of EU and national biodiversity legislation and policy requirements into Council plans, projects, and services, where relevant.	This action supports the full integration of EU and national biodiversity legislation and policy requirements into Council plans, projects and services. It has the potential to improve biodiversity related expertise and underpin and support biodiversity improvements within Meath. Alignment of lower-order plans with higher-order plans avoids conflicts with targets and/or objectives, ensures compliance and contributes to the achievement of national targets and ambitions. It also has the potential to contribute to the effective delivery of the plan and biodiversity improvements generally. It does not have the potential to generate any significant adverse environmental effects on European stes.
	9	Support the implementation of the Birds and Habitats Directives in protecting, and where possible, in achieving an improvement in the conservation status of protected species and habitats in County Meath.	This action will support the conservation of protected species present in the plan area and connected areas. It has the potential to generate a positive effects for said protected species and for biodiversity generally. It does not have the potential to generate any significant adverse environmental effects on European sites.
	10	Support the review and update of policies, objectives and development management standards in the Meath County Development Plan.	This action proposes the review of and, if necessary, updates to policies, objectives and development management standards in the Meath CDP. It will contribute to the effective delivery of the plan and biodiversity improvements generally. The proposed action will support the functions and obligations of the forward planning section of the local authority with the view to promote biodiversity protection. It does not have the potential to generate any significant adverse environmental effects on European stes.

Theme	Action Code	Action	Potential Sources of Impact
	11	Work with the relevant authorities to support the preparation of, and implement, Ireland's Nature Restoration Plan, when adopted, and where relevant for Meath County Council, to help achieve national restoration targets.	This action will create and foster a collaborative approach to implementing biodiversity and restoration initiatives and improving biodiversity and environmental restoration in the plan area. It will contribute to the effective delivery of the plan and biodiversity improvements generally. Alignment of lower-order plans with higher-order plans avoids conflicts with targets and/or objectives, ensures compliance and contributes to the achievement of national targets and ambitions. This action will not result in the occurrence of a real, significant adverse environmental effects on European sites.
	12	Identify locally important breeding sites in County Meath for select rare and threatened species, such as the Swift & Barn Owl, and ensure these are mapped and protected through inclusion of policies and objectives in the County Development Plan.	This action will support the identification and protection of rare and threatened species present in the plan area and connected areas. Said species include the Swift and Barn Owl. Inclusion of protection of these species through County Policy and the Development Management Process has the potential to enhance conservation efforts and generate positive effects for rare and threatened species. It does not have the potential to generate any adverse environmental effects on European sites.
	13	Promote a policy to ensure the purchase and use of native hedge and tree stock of local provenance where possible in plans and projects and avoid the use of species classified as 'invasive' such as Cherry Laurel.	This action promotes the use of native species in the plan area. Ecologically-valuable plans or projects should prioritise native species of local provenance, as they are more likely to thrive, adapt well to local environmental conditions, and provide critical support to local wildlife, including birds, mammals, and insects. This action has the potential to have positive effects for biodiversity, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.

Theme	Action Code	Action	Potential Sources of Impact
	14	Provide a central place for all biodiversity data for decision-makers in Meath County Council.	This action proposes facilitating data-sharing between MCC departments via the MCC mapping system. This will create and foster a collaborative approach to implementing biodiversity initiatives and improving biodiversity in the plan area. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This action will not result in the occurrence of a real, significant adverse environmental effects on European sites.
	15	Develop and implement a Green Infrastructure Strategy in accordance international best practice and emerging national guidance.	This action is aimed at enhancing biodiversity in County Meath through the development of a Green Infrastructure Strategy and integration of national guidance. The proposed action is aligned with and contributes to the achievement of various higher-order and interreled biodiversity-oriented policy contained within the MCDP, the Eastern and Midlands RSES, the National Planning Framework and its First Revision (2025). An overarching Green Infrastructure Strategy that integrates national guidance will have the benefit of providing a cohesive strategy for interacting and focussed biodiversity enhancements. This action has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components. The development of such a Strategy does not have the potential to generate any adverse environmental effects on European sites.
	16	Support habitat retention and the integration of biodiversity measures into plans and the design and delivery of public projects and private developments, aiming for no net loss of biodiversity and biodiversity net gain where possible.	This action supports the integration of biodiversity consideration and improvements within the development planning process. In doing so, this action would foster habitat retention and integration of biodiversity measures into planning processes. It has the potential to contribute to the realization of positive effects on biodiversity, as well as co-benefits for other environmental components.

Theme	Action Code	Action	Potential Sources of Impact
			It does not have the potential to generate any adverse environmental effects on European sites.
	17	Support the integration of nature-based solutions into plans and the design and delivery of public projects and private developments.	Nature Based Solutions (NBS) involve assimilating nature into addressing societal issues to support human and biodiversity wellbeing. The integration of NBS into local authority projects and private developments will underpin and support biodiversity improvements within the Plan Area. The action will not generate any negative environmental effects on European sites. The development of any NBS infrastructure will be undertaken under the land use planning framework and will require appropriate planning consent.
	18	Align public projects and private developments with Inland Fisheries Ireland's guideline document 'Planning for Watercourses in the Urban Environment' and update development management standards as appropriate.	This action supports the integration of Inland Fisheries Ireland guidelines into watercourses planning of both public projects and private developments. MCC intends to align planning processes with Inland Fisheries Ireland guidelines by updating development management standards. This action has the potential to have positive effects for biodiversity. It does not have the potential to generate any adverse environmental effects on European sites.
	19	Apply appropriate lighting specifications and mitigation measures to new development, new projects, lighting upgrades and existing lighting stock, as appropriate, to minimise disturbance to local biodiversity.	This action supports the control and management of lighting of new developments, upgrades and existing lighting infrastructure in the plan area. The action is aligned with higher-order and interrelated policy, such as the Eastern and Midlands RSES (RPO 7.9) and the MCDP (HER OBJ 60). It will contribute to preventing and reducing the impact of lighting on light sensitive species, such as bat species. This action has the potential to have positive effects for biodiversity. It does not have the potential to generate any adverse environmental effects on European sites.

Theme	Action Code	Action	Potential Sources of Impact
	20	Protect existing Swift nesting sites where possible, establish new sites in existing public and private properties; and request integration of artificial swift nest bricks & boxes in new development.	This action will support the conservation of Swift nesting sites present in the plan area and connected areas, and the establishment of new nesting sites in both private and public properties via the integration of nest bricks and boxes through the development management process of the land-use planning framework for County Meath. It has the potential to generate a positive effects for this key species and for biodiversity generally. It does not have the potential to generate any adverse environmental effects on European sites..
	21	Develop and provide guidance on the management of biodiversity issues for developers in the planning process.	This action supports the integration of biodiversity consideration and improvements within the development planning process and the promotion of awareness of biodiversity among developers. This provides an opportunity to incorporate biodiversity enhancement measures into planned development and contribute to Biodiversity Net Gain. It has the potential to contribute to the realization of positive effects on biodiversity, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	22	Pilot an Urban Nature Plan for Navan.	This action proposes the development of an Urban Nature Plan for Navan. This envisaged Plan would promote awareness of biodiversity and biodiversity-related initiatives in County Meath and would contribute to improved biodiversity in Urban centres in the Plan area. This action will not generate a source of negative impact on the receiving environment.

Theme	Action Code	Action	Potential Sources of Impact
	23	Adopt and implement a pesticide reduction strategy within Meath County Council.	This action supports the prevention and reduction of pesticides that may affect biodiversity components in the plan area. It is inherently positive in nature. It has the potential to generate positive effects on biodiversity components, such as habitats, key species, soil, and watercourses as well as indirect positive effects on human health and livestock. It does not have the potential to generate any adverse environmental effects on European sites.
	24	Develop a training programme for Meath County Council staff.	This action promotes biodiversity-related training for MCC staff. It has the potential to improve biodiversity related expertise and underpin and support biodiversity improvements within the plan area. This action will not generate a source of negative impact on the receiving environment.
	25	Produce Biodiversity Best Practice Guidelines for staff across all sections of the local authority.	This action will promote awareness of biodiversity and biodiversity-related initiatives among MCC staff. It has the potential to foster further interest in biodiversity protection and enhancement throughout the local authority as an organisation and the wider community. This action will not generate a source of negative impact on the receiving environment.
	26	Engage with neighbouring local authorities on biodiversity projects that require a landscape and/or catchment scale approach.	This action will create and foster a collaborative approach to implementing biodiversity initiatives and improving biodiversity in the Plan area and neighbouring local authorities. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This action will not generate a source of negative impact on the receiving environment.

Theme	Action Code	Action	Potential Sources of Impact
	27	Provide updates to the Meath Biodiversity Working Group on unauthorised developments impacting the integrity and ecological health of protected and Locally Important Biodiversity Sites, where possible.	This action will promote awareness of the negative impacts of unauthorised developments on the integrity of biodiversity. It has the potential to foster further interest in biodiversity protection and enhancement throughout the local authority as an organisation and the wider community. This action will not generate a source of negative impact on the receiving environment.
	28	Pilot a biodiversity inclusive design for a social housing estate, prioritising retention of pre-existing habitats and a number of other possible actions such as the regeneration of semi-natural grasslands, installation of blue/green roofs, green walls, wetland & pond SUDS, green carparking, nest boxes in facades and wildlife friendly shrubs and trees in open space.	This action is aimed at protecting and enhancing biodiversity in social housing estates in the plan area. MCC intends to foster biodiversity protection and education through regeneration of semi-natural grasslands, integration of green infrastructure, SUDS and the development of open spaces. Such projects will be undertaken in accordance with the land-use planning framework (the current MCDP), which has been subject to its own assessment. It has the potential to generate positive effects on biodiversity components, such as habitats, human health and key species, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	29	Continue to deliver local authority led actions in relation to monitoring, protection and the restoration of ecological status of waterbodies in County Meath.	This action is aimed at protecting and enhancing waterbodies in the plan area. It has the potential to generate positive effects on biodiversity components such as soil and aquatic biodiversity, as well as co-benefits for other environmental components such as ecological and chemical status of waterbodies. It does not have the potential to generate any adverse environmental effects on European sites.
	30	Implement the AII-Ireland Pollinator Plan as part of Meath County Council's partnership agreement with the National Biodiversity Data Centre.	This action supports the aims and objectives of the national All-Ireland Pollinator Plan which will have positive effects for biodiversity, such as the improvement in the diversity of plants and the conservation and protection of pollinator species.

Theme	Action Code	Action	Potential Sources of Impact
			This will enhance the relationship between pollinators and the conservation of native floral species. This action will not result in the occurrence of significant environmental effects on European Sites.
	31	Develop biodiversity management plans for select open spaces / parks / greenways within local authority ownership, focusing initial pilots on Blackwater Park and the Boyne Valley to Lakelands Greenway.	This action supports the development of biodiversity management plans for certain open spaces, parks and greenways within the Plan area. It has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
3. Action for biodiversity.	32	Where possible, support Inland Fisheries Ireland in the removal/alteration of disused weirs to facilitate migration.	This action supports the enhancement of weirs and migration within the Plan area and will foster collaboration between Inland Fisheries Ireland and MCC. It has the potential to generate positive effects on biodiversity components such as key species, as well as co-benefits for other environmental components. This will consequently contribute to the expansion of habitats and habitat availability for key species in the plan area. It does not have the potential to generate any adverse environmental effects on European sites.
	33	Where possible, work with relevant partners to protect and/or restore high ecological status waterbodies in County Meath and along its borders.	This action will create and foster a collaborative approach to enhancing and restoring waterbodies in the plan area and neighbouring local authorities. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This will consequently contribute to the restored/improved ecological and chemical status of waterbodies in the plan area. This action will not generate a source of negative impact on the receiving environment.

Theme	Action Code	Action	Potential Sources of Impact
	34	Plant native woodland on appropriate local authority owned sites.	This action promotes the use of native species in the plan area. The promotion of native species on local authority-owned sites has the potential contribute to ecological diversity and sustainability. This action has the potential to have positive effects for biodiversity, as well as co-benefits for other environmental components. This will consequently contribute to the viability of native woodland in the plan area and will provide support to local wildlife. It does not have the potential to generate any adverse environmental effects on European sites.
	35	Facilitate the planting of groups of native trees within the boundary/built footprint of existing built-up areas.	This action promotes the use of native tree species in built-up areas within the plan area. The promotion of native species on local authority-owned sites has the potential contribute to ecological diversity and sustainability. This action has the potential to have positive effects for biodiversity, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	36	Assess the feasibility of developing a native tree nursery and outdoor classroom space on a local authority owned site with a view to rearing stock of local provenance that can supply local projects and initiatives.	This action will promote awareness of native tree species and biodiversity-related initiatives. It has the potential to foster further interest in biodiversity protection and enhancement throughout the community. This action will not generate a source of negative impact on the receiving environment.
	37	Continue to implement biodiversity and habitat management measures recommended for Balrath Woods.	This action is aimed at enhancing biodiversity and habitat management in Balrath Woods, in alignment with Objective Reference HER OBJ 37 of the MCDP. It has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components.

Theme	Action Code	Action	Potential Sources of Impact
			It does not have the potential to generate any adverse environmental effects on the receiving environment.
	38	Continue and expand biodiversity-friendly grassland management practices which benefit biodiversity on the Commons of Lloyd and seek to implement similar practices on other public lands.	This action is aimed at protecting and enhancing biodiversity of grasslands in the plan area. It has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	39	Continue to work in partnership with relevant stakeholders on a suitable peatland site(s) to demonstrate best practice in sustainable peatland conservation, management and restoration techniques and to promote their heritage and educational value.	This action will create and foster a collaborative approach to implementing biodiversity initiatives and improving peatland conservation and promotion of peatlands as educational tools in the plan area. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This action will not generate a source of negative impact on the receiving environment.
	40	Support the implementation of projects which promote the conservation of County Meath's coastal dune habitats	This action supports the protection and enhancement of coastal dune habitats in the plan area. This action has the potential to have positive effects for biodiversity in coastal areas, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	41	Support local communities with the creation and implementation of Community Biodiversity Action Plans.	This action will create and foster a collaborative approach to implementing biodiversity initiatives and improving biodiversity among communities in the plan area. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.

Theme	Action Code	Action	Potential Sources of Impact
	42	Continue to deliver the Hare's Corner project.	This action supports the progression of Hare's Corner projects within the Plan area. The Hare's Corner initiative aids landowners in creating space for biodiversity enhancement through the development of small-scale ecological projects, such as mini-woodlands, wildlife hedges, mini-orchards and wildlife ponds. It has the potential to contribute to the realization of positive effects on biodiversity, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on European sites.
	43	Continue to support Barn Owl conservation in County Meath in conjunction with partners.	This action will support the conservation of Barn Owls, a red-listed species, present in the plan area and connected areas. It has the potential to generate a positive effects for this key species and for biodiversity generally, and to foster collaboration with MCC partners. It does not have the potential to generate any adverse environmental effects on the receiving environment.
4. Research and monitoring.	44	Implement ecological surveys targeting NHAs, pNHAs and non-designated sites in County Meath, where possible.	This action proposes the carrying out of environmental surveys of NHAs, pHNAs and non-designated sites in the plan area. It will underpin and support effective implementation of plan and potentially lead to more focused and targeted biodiversity improvements. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.
	45	Implement an annual programme of ecological surveys, climate change risk assessments and ecological conservation work, as necessary, on local authority owned lands.	This action proposes the carrying out of ecological surveys, climate risk assessments and conservation initiatives in the plan area. It will underpin and support effective implementation of plan and potentially lead to more focused and targeted biodiversity improvements on local authority-owned lands. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.

Theme	Action Code	Action	Potential Sources of Impact
	46	Explore opportunities to progress river restoration measures, natural water retention measures and nature-based solutions for integrated catchment management (NbS-ICM) in appropriate locations in the Boyne catchment, where feasible and in collaboration with relevant stakeholders.	This action supports the restoration and enhancement of rivers, and management of NbS-ICM in the Boyne catchment area. The River Boyne is an integral biodiversity feature in the plan area and acts as an important habitat and ecological corridor. This action has the potential to have positive effects for biodiversity, as well as co-benefits for other environmental components. It does not have the potential to generate any adverse environmental effects on the receiving environment.
	47	Consider projects that include the mapping, appropriate treatment and eradication where possible of Invasive Alien Species.	This action will prevent and minimise the spread of invasive species in the plan. This action has the potential to have positive effects for biodiversity, such as native species and habitats, that are at risk due to invasive species spread. It does not have the potential to generate any adverse environmental effects on the receiving environment.
	48	Support and encourage the volunteer network and local communities to carry out biological recording and citizen science projects.	This action will create and foster a collaborative approach to implementing biodiversity initiatives in the plan area. Citizen science initiatives enable data collection by members of the public to contribute to research and add to the national dataset on Ireland's biodiversity and biological data. Such research can help identify trends in biodiversity and improve understanding of the ecological baseline in the Plan Area. The action has the potential to improve awareness and knowledge of local biodiversity in County Meath, which will underpin and support improvements in the area. In isolation, the action, in and of itself, does not have the potential to generate any significant adverse effects on European Sites.

Theme	Action Code	Action	Potential Sources of Impact
5. Raising awareness and appreciation of biodiversity.	49	Develop and implement an outreach and engagement programme for the general public.	This action will promote awareness of biodiversity, biodiversity related initiatives and biodiversity-related eductaion generally. It has the potential to foster further interest in biodiversity protection and enhancement throughout the local authority as an organisation and the wider community. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.
	50	Facilitate and support a landowner and land manager network for those interested in farming sustainably and managing space for nature in the countryside.	This action is aimed at supporting sustainable farming practices in the plan area. It has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components, particularly soil health. It does not have the potential to generate any adverse environmental effects.
	51	Explore the use of demonstration farm(s) for biodiversity conservation e.g. hedgerow management, field margins, river management, soil improvement, Integrated pest management, nest boxes etc.	This action is aimed at protecting and enhancing biodiversity, and promoting biodiversity education in the plan area. It has the potential to generate positive effects on biodiversity components, such as habitats and key species, as well as co-benefits for other environmental components. This action also has the potential to foster transferring of knowledge and capacity building of sustainable farming practices. It does not have the potential to generate any adverse environmental effects.
	52	Produce Tree Planting and Management Guidelines for communities.	This action will create and foster a collaborative approach to implementing tree planting initiatives and improving biodiversity in the plan area. It will contribute to the effective delivery of the plan and biodiversity improvements generally. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.

Theme	Action Code	Action	Potential Sources of Impact
	53	Continue to work with the Meath County Council Culture and Creativity Team to promote biodiversity through creative projects, and with support from the Creative Ireland programme.	This action will promote awareness of biodiversity and biodiversity-related initiatives. It has the potential to foster further interest in biodiversity protection and enhancement throughout the local authority as an organisation and the wider community. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.
	54	Develop guidance and supports for schools and school teachers in County Meath relating to biodiversity.	This action promotes biodiversity-related education in schools within County Meath. It has the potential to improve biodiversity knowledge among youth groups, promote community engagement, and underpin and support biodiversity improvements within the plan area. This action will not result in the occurrence of a real, significant adverse environmental effects in and of itself.

3.2.1 Summary of the interactions of the Proposed Plan on the receiving environment

The LABAP provides a general framework for biodiversity protection and enhancement on lands in the plan area. It defines the biodiversity actions that support and promote:

- Best practice biodiversity management and improvement,
- Local authority biodiversity protection and enhancement initiatives,
- The improvement of biodiversity on local authority controlled lands,
- Biodiversity training and awareness events,
- Biodiversity education and training,
- Planting of native species (i.e. trees, shrubs, plants etc.)
- Ecological surveying and mapping to identify areas of risk from threats and pressure and areas for targeted biodiversity protection/enhancement action,
- Collaborating with key stakeholders and the public to achieve biodiversity aims.

The range of actions defined in the LABAP have the potential to have a range of, positive environmental effects on biodiversity, including habitats, key species, designated sites and locally important non-designated sites.

All actions in the LABAP are aimed at protecting and enhancing biodiversity. They have been carefully reviewed and it has been concluded that these actions do not have the potential to have unintended negative effects on the receiving environment.

The actions in the LABAP do not support intensive land use or development projects sitting outside the land use planning framework that can cause significant negative environmental effects. The LABAP will not in and of itself set the context for future development consent. There is no real likelihood of significant negative environmental effects occurring as result of the implementation of the LABAP.

The implementation of the LABAP will not introduce any sources of negative environmental impact, such as

- Land take;
- Resource Requirements (Drinking Water Abstraction Etc.);
- Emissions (Disposal to Land, Water or Air);
- Excavation Requirements;
- Transportation Requirements;
- Construction, Operation, Decommissioning.

The LABAP will not introduce any source of negative environmental impact which could result in or contribute to the following types of negative effect on a European site:

- Reduction of habitat area, habitat degradation or fragmentation;
- Disturbance to species, reduction in species populations and density;
- Changes in ecological functions and/or features that are essential for the ecological requirements of habitats and species (e.g. water quality and quantity);
- Interference with the key relationships that define the structure and function of the site.

The implementation of the LABAP will not result in any source of negative environmental impacts that may combine with effects occurring due to other plans or projects to create an 'in-combination' significant effect on a European site.

It is clear the LABAP will not generate any source of negative environmental impact that may result in a negative effect on any European site.

3.3 European Sites within the Zone of Influence (ZoI)

The OPR (2021) AA Screening practice note states that the Zone of Influence must be established on a case-by-case basis using the Source-Pathway-Receptor model. The S-P-R model has been used to identify the ZoI to ensure that relevant European sites are identified. The S-P-R model minimises the risk of overlooking distant or obscure effect pathways, while also avoiding an over reliance on buffer zones (e.g. 15 km), within which all European sites should be considered. This approach follows the DoEHLG (2009 rev 2010) guidance on AA which states that:

> *"For projects, the distance could be much less than 15 km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects"*

As detailed in Section 1.5 in order for an effect to occur, all three elements of this mechanism must be in place. The absence of one of the elements of the mechanism means there is no likelihood for the effect to occur. The potential impacts of the plan are set out in Section 3.2 of this report. The impact is essentially the 'source' in the S-P-R model.

These impacts may be very localised and confined to defined area with no potential connectivity to a European site and therefore no potential for effects. Alternatively, where an ecological or functional pathway exists they may give rise to a potential effect to a Qualifying Interest of a European site.

The dominant ecological pathways to consider are:

- Direct physical interactions or changes to the local environment;
- Air dispersal (noise, dust, odour emissions etc.);
- Hydrological interactions; and
- Dispersal patterns of mobile species

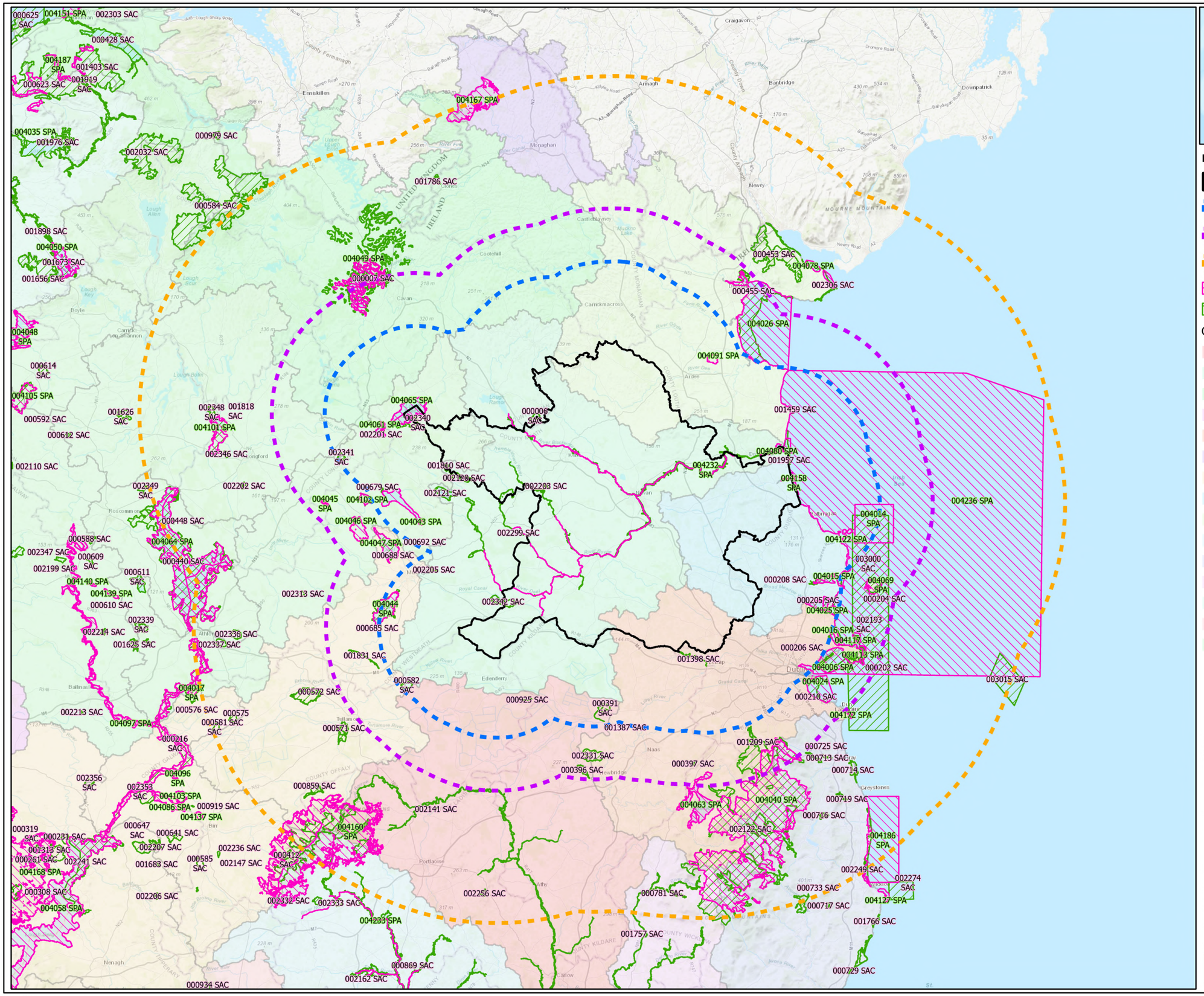
Based on the precautionary principal, the Zone of Influence of the proposed plan has been defined as:

- All European sites locally either solely or partially in County Meath
- All hydrologically connected European Sites to waterbodies within County Meath ; and
- All European sites within a 15km buffer of County Meath

All European sites within the Zone of Influence of the Plan area or which are connected to the Plan area ecologically, hydrologically or through hydrogeology have been identified - having appropriate regard to the interaction criteria defined in Section 1.5.

A map showing these European sites in or connected to the plan area is presented in Figure 3-1. Background information on these European sites is presented in Appendix 1, including:

- Quality and site characteristics of European sites considered in the assessment.
- Background data for European sites considered in the assessment; including the Qualifying features (Qualifying Interests or Special Conservation Interests) and the known threats and pressures as recorded by the National Parks and Wildlife Services.
- Known threats and pressures related to the qualifying interests from each Special Area of Conservation as per article 17 reporting from the National Parks and Wildlife Services.
- Known threats and pressures related to the qualifying interests from each Special Protection Area as per article 17 reporting from the National Parks and Wildlife Services.



Legend

- County Boundary
- 15km
- 25km
- 50km
- Special Protection Areas
- Special Area of Conservation

Catchment Name

- Barrow
- Boyne
- Erne
- Galway Bay South East
- Liffey and Dublin Bay
- Lough Neagh & Lower Bann
- Lower Shannon
- Nanny-Delvin
- Newry, Fane, Glyde and Dee
- Nore
- Ovoca-Vartry
- Slaney & Wexford Harbour
- Sligo Bay
- Suir
- Upper Shannon

Note: A full list of European sites within, overlapping or connected to the Plan Area is provided in Screening for Appropriate Assessment section of this document.

TITLE:	European Sites with Connectivity to Co. Meath		
PROJECT:	SEA and AA for Meath Biodiversity Action Plan		
FIGURE NO:	3-1		
CLIENT:	Meath County Council		
SCALE:	1:700,000	**REVISION:**	0
DATE:	17/04/2025	**PAGE SIZE:**	A3

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3.4 Consideration of in-combination Effects with other plans or projects

Article 6(3) of the Habitats Directive requires that:

> *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives".*

It is therefore required that the likely significant effects of the plan are considered in-combination with other plans or projects within the zone of influence.

The consideration of in-combination effects with other plans or projects, focused on the sources of impacts identified for the plan in Section 3.2. The principal plans that are related to the LABAP are defined in Section 2.2.

The LABAP is in harmony and consistent with all inter-related plans, including land use plans relevant to the plan area, higher order heritage related plans, the Local Authority Climate Action Plan, the national Climate Action Plan and the 4th National Biodiversity Action Plan. The range of positive effects that may be realised by the implementation of the LABCAP have the potential to interact and combine with positive effects associated with biodiversity measures defined in these inter-related plans to create larger, more significant positive effects.

All actions in the LABAP are aimed at protecting and enhancing biodiversity. The implementation of the LABAP will not give rise to likely significant negative effects on the environment that have the potential to interact and combine with negative effects associated with measures defined in these inter-related plans or projects to create larger, more significant negative effects.

The Plan does not therefore have any potential to contribute to in-combination likely significant effects on European sites that may occur due to the wider implementation of inter-related plans or projects.

3.5 Assessment of Likely Significant Effects

Table 3-2 examines whether there is potential for effects on identified European sites considering information provided above and the background information on the relevant European sites provided in Appendix 1.

Table 3-2 : Identification of European Sites within the Zone of Influence of the Draft Plan

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004080	Boyne Estuary SPA	0	Shelduck (*Tadorna tadorna*) [A048], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Lapwing (*Vanellus vanellus*) [A142], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba)* [A144], Black-tailed Godwit (*Limosa limosa*) [A156], Redshank (*Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Little Tern (*Sterna albifrons*) [A195], Wetland and Waterbirds [A999].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
001957	Boyne Coast and Estuary SAC	0	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004158	River Nanny Estuary and Shore SPA	0	Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Golden Plover (*Pluvialis apricaria*) [A140], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Herring Gull (*Larus argentatus*) [A184], Wetland and Waterbirds [A999].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004232	River Boyne and River Blackwater SPA	0	Kingfisher (*Alcedo atthis*) [A229].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004236	North-west Irish Sea SPA	0	Red-throated Diver (*Gavia stellata*) [A001], Great Northern Diver (*Gavia immer*) [A003], Fulmar (*Fulmarus glacialis*) [A009], Manx Shearwater (*Puffinus puffinus*) [A013], Cormorant (*Phalacrocorax carbo*) [A017], Shag (*Phalacrocorax aristotelis*) [A018], Common Scoter (*Melanitta nigra*) [A065], Little Gull (*Larus minutus*) [A177], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Common Gull (*Larus canus*) [A182], Lesser Black-backed Gull (*Larus fuscus*) [A183], Herring Gull (*Larus argentatus*) [A184], Great Black-backed Gull (*Larus marinus*) [A187], Kittiwake (*Rissa*	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
			tridactyla) [A188], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194], Little Tern (*Sterna albifrons*) [A195], Guillemot (*Uria aalge*) [A199], Razorbill (*Alca torda*) [A200], Puffin (*Fratercula arctica*) [A204].				
004014	Rockabill SPA	0	Purple Sandpiper (Calidris maritima) [A148], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
001398	Rye Water Valley/Carton SAC	0	Petrifying springs with tufa formation (*Cratoneurion*) [7220], *Vertigo angustior* (Narrow-mouthed Whorl Snail) [1014], *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002342	Mount Hevey Bog SAC	0	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				environmental impact that can lead to adverse effects on any European Site.			
002299	River Boyne and River Blackwater SAC	0	Alkaline fens [7230], Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0], *Lampetra fluviatilis* (River Lamprey) [1099], *Salmo salar* (Salmon) [1106], *Lutra lutra* (Otter) [1355].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002203	Girley (Drewstown) Bog SAC	0	Degraded raised bogs still capable of natural regeneration [7120].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002120	Lough Bane and Lough Glass SAC	0	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], *Austropotamobius pallipes* (White-clawed Crayfish) [1092].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
001810	White Lough, Ben Loughs and Lough Doo SAC	0	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], *Austropotamobius pallipes* (White-clawed Crayfish) [1092].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002340	Moneybeg and Clareisland Bogs SAC	0	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004065	Lough Sheelin SPA	0	Great Crested Grebe (*Podiceps cristatus*) [A005], Pochard (*Aythya ferina*) [A059], Tufted Duck (*Aythya fuligula*) [A061], Goldeneye (*Bucephala clangula*) [A067], Wetland and Waterbirds [A999].	This European Site is located within County Meath and the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000006	Killyconny Bog (Cloghbally) SAC	0	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120].	This European Site is located within County Meath and the Plan Area.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.			
004061	Lough Kinale and Derragh Lough SPA	4.05	Pochard (*Aythya ferina)* [A059], Tufted Duck (*Aythya fuligula*) [A061], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002121	Lough Lene SAC	4.24	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], *Austropotamobius pallipes* (White-clawed Crayfish) [1092].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002201	Derragh Bog SAC	4.7	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				can lead to adverse effects on any European Site.			
001459	Clogher Head SAC	7.58	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], European dry heaths [4030].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000925	The Long Derries, Edenderry SAC	9.45	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004122	Skerries Islands SPA	9.56	Cormorant (*Phalacrocorax carbo*) [A017], Shag (*Phalacrocorax aristotelis*) [A018], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Purple Sandpiper (*Calidris maritima*) [A148], Turnstone (*Arenaria interpres*) [A169], Herring Gull (*Larus argentatus*) [A184].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004091	Stabannan-Braganstown SPA	9.91	Greylag Goose (Anser anser) [A043].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
003000	Rockabill to Dalkey Island SAC	10.16	Reefs [1170], *Phocoena phocoena* (Harbour Porpoise) [1351].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
001387	Ballynafagh Lake SAC	10.35	Alkaline fens [7230], *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016], *Euphydryas aurinia* (Marsh Fritillary) [1065].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000391	Ballynafagh Bog SAC	11.14	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	The European Site is within the 15km buffer zone of the Plan Area.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.			
004043	Lough Derravarragh SPA	12.57	Whooper Swan (*Cygnus cygnus*) [A038], Pochard (*Aythya ferina*) [A059], Tufted Duck (*Aythya fuligula*) [A061], Coot (*Fulica atra*) [A125], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004025	Malahide Estuary SPA	12.79	Great Crested Grebe (*Podiceps cristatus*) [A005], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Pintail (Anas acuta) [A054], Goldeneye (*Bucephala clangula*) [A067], Red-breasted Merganser (*Mergus serrator*) [A069], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa)* [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Redshank (*Tringa totanus*) [A162], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
000582	Raheenmore Bog SAC	13.21	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002205	Wooddown Bog SAC	13.34	Degraded raised bogs still capable of natural regeneration [7120].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004044	Lough Ennell SPA	13.39	Pochard (*Aythya ferina*) [A059], Tufted Duck (*Aythya fuligula*) [A061], Coot (*Fulica atra*) [A125], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000685	Lough Ennell SAC	13.46	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], Alkaline fens [7230].	The European Site is within the 15km buffer zone of the Plan Area.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.			
000205	Malahide Estuary SAC	14.39	Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330], Mediterranean salt meadows (*Juncetalia maritimi*) [1410], Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004016	Baldoyle Bay SPA	14.46	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Ringed Plover (*Charadrius hiaticula*) [A137], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Bar-tailed Godwit (*Limosa lapponica*) [A157], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004026	Dundalk Bay SPA	14.51	Great Crested Grebe (*Podiceps cristatus*) [A005], Greylag Goose (*Anser anser) [*A043], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Mallard (*Anas platyrhynchos*) [A053], Pintail (*Anas*	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
			acuta) [A054], Common Scoter (*Melanitta nigra*) [A065], Red-breasted Merganser (*Mergus serrator*) [A069], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Lapwing (*Vanellus vanellus*) [A142], Knot (*Calidris canutus*) [A143], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162], Black-headed Gull (*Chroicocephalus ridibundus*) [A179]. Common Gull (*Larus canus*) [A182] Herring Gull (*Larus argentatus*) [A184] Wetland and Waterbirds [A999]	can lead to adverse effects on any European Site.			
002341	Ardagullion Bog SAC	14.66	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004015	Rogerstown Estuary SPA	15	Greylag Goose (*Anser anser*) [A043], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Shoveler (*Anas clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Dunlin (*Calidris alpina*) [A149], Black-taile, Godwit (*Limosa limosa*) [A156], Redshank (*Tringa totanus*) [A162], Wetland and Waterbirds [A999].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000208	Rogerstown Estuary SAC	15	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330], Mediterranean salt meadows (*Juncetalia maritimi*) [1410], Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000679	Garriskil Bog SAC	15	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				can lead to adverse effects on any European Site.			
004102	Garriskil Bog SPA	15	Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395].	The European Site is within the 15km buffer zone of the Plan Area. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
001209	Glenasmole Valley SAC	15.73	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210], Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410], Petrifying springs with tufa formation (*Cratoneurion*) [7220]	The European Site is separated from the Plan Area by a distance of 15.73 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004006	North Bull Island SPA	16.52	Light-bellied Brent Goose (*Branta bernicla hrota)* [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Anas clypeata*) [A056, Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis*	The European Site is separated from the Plan Area by a distance of 16.52 km, and shares a potential hydrological/hydrogeological connection via the WFD	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
			apricaria) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Wetland and Waterbirds [A999]	Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.			
004024	South Dublin Bay and River Tolka Estuary SPA	16.69	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba)* [A144], Dunlin (*Calidris alpina)* [A149], Bar-tailed Godwit (*Limosa lapponica) [*A157], Redshank (*Tringa totanus*) [A162], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Roseate Tern (*Sterna dougallii*) [A192], Common Tern (*Sterna hirundo*) [A193], Arctic Tern (*Sterna paradisaea*) [A194], Wetland and Waterbirds [A999]	The European Site is separated from the Plan Area by a distance of 16.69 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
000455	Dundalk Bay SAC	16.86	Estuaries [1130], Mudflats and sandflats not covered by seawater at low tide [1140], Perennial vegetation of stony banks [1220], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330], Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	The European Site is separated from the Plan Area by a distance of 16.86 km, and shares a potential hydrological/hydrogeological connection via the WFD Newry, Fane, Glyde and Dee. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000210	South Dublin Bay SAC	16.88	Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Embryonic shifting dunes [2110]	The European Site is separated from the Plan Area by a distance of 16.88 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
000206	North Dublin Bay SAC	17.72	Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330], Mediterranean salt meadows (*Juncetalia maritimi*) [1410], Embryonic shifting dunes [2110], Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120], Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130], Humid dune slacks [2190], *Petalophyllum ralfsii* (Petalwort) [1395]	The European Site is separated from the Plan Area by a distance of 17.72 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002331	Mouds Bog SAC	19.53	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	The European Site is separated from the Plan Area by a distance of 19.53 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
000202	Howth Head SAC	19.63	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230], European dry heaths [4030]	The European Site is separated from the Plan Area by a distance of 19.63 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004040	Wicklow Mountains SPA	19.95	Merlin (*Falco columbarius*) [A098], Peregrine (*Falco peregrinus*) [A103]	The European Site is separated from the Plan Area by a distance of 19.95 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
002122	Wicklow Mountains SAC	19.95	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110], Natural dystrophic lakes and ponds [3160], Northern Atlantic wet heaths with *Erica tetralix* [4010], European dry heaths [4030], Alpine and Boreal heaths [4060], Calaminarian grasslands of the *Violetalia calaminariae* [6130], Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230], Blanket bogs (* if active bog) [7130], Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110], Calcareous rocky slopes with chasmophytic vegetation [8210], Siliceous rocky slopes with chasmophytic vegetation [8220], Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0], *Lutra lutra* (Otter) [1355]	The European Site is separated from the Plan Area by a distance of 19.95 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000397	Red Bog, Kildare SAC	21.02	Transition mires and quaking bogs [7140]	The European Site is separated from the Plan Area by a distance of 21.02 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
				The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.			
000688	Lough Owel SAC	21.74	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], Transition mires and quaking bogs [7140], Alkaline fens [7230], *Austropotamobius pallipes* (White-clawed Crayfish) [1092]	The European Site is separated from the Plan Area by a distance of 21.74 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004047	Lough Owel SPA	21.74	Shoveler (*Anas clypeata*) [A056], Coot (*Fulica atra*) [A125], Wetland and Waterbirds [A999]	The European Site is separated from the Plan Area by a distance of 21.74 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004113	Howth Head Coast SPA	22.62	Kittiwake (*Rissa tridactyla*) [A188]	The European Site is separated from the Plan Area by a distance of 22.62 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004063	Poulaphouca Reservoir SPA	23.52	Greylag Goose (*Anser anser*) [A043], Lesser Black-backed Gull (*Larus fuscus*) [A183]	The European Site is separated from the Plan Area by a distance of 23.52 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Liffey and Dublin Bay. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004046	Lough Iron SPA	27.8	Whooper Swan (*Cygnus cygnus*) [A038], Wigeon (*Anas penelope*) [A050], Teal (*Anas crecca*) [A052], Shoveler (*Anas clypeata*) [A056], Coot (*Fulica atra*) [A125], Golden Plover (*Pluvialis apricaria*) [A140], Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395], Wetland and Waterbirds [A999]	The European Site is separated from the Plan Area by a distance of 27.8 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
002313	Ballymore Fen SAC	30	Transition mires and quaking bogs [7140]	The European Site is separated from the Plan Area by a distance of 30 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
002306	Carlingford Shore SAC	30.75	Annual vegetation of drift lines [1210], Perennial vegetation of stony banks [1220]	The EU Site is separated from the Plan Area by a distance of 30.75 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Newry, Fane, Glyde and Dee. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004078	Carlingford Lough SPA	31.65	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Wetland and Waterbirds [A999]	The European Site is separated from the Plan Area by a distance of 31.65 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Newry, Fane, Glyde and Dee. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
000453	Carlingford Mountain SAC	32.07	Northern Atlantic wet heaths with *Erica tetralix* [4010], European dry heaths [4030], Alpine and Boreal heaths [4060], Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230], Blanket bogs (* if active bog) [7130], Transition mires and quaking bogs [7140], Alkaline fens [7230], Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110], Calcareous rocky slopes with chasmophytic vegetation [8210], Siliceous rocky slopes with chasmophytic vegetation [8220]	The European Site is separated from the Plan Area by a distance of 32.07 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Newry, Fane, Glyde and Dee. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
004045	Glen Lough SPA	37.98	Whooper Swan (*Cygnus cygnus*) [A038]	The European Site is separated from the Plan Area by a distance of 37.98 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

Site Code	Site Name	Distance (km)	Qualifying Feature (Qualifying Interests and Special Conservation Interests)	Potential Effects	Pathway for Significant Effects	Potential for In-Combination Effects	Likely Significant Effect / No Likely Significant Effect
004064	Lough Ree SPA	53.4	Little Grebe (*Tachybaptus ruficollis*) [A004], Whooper Swan (*Cygnus cygnus*) [A038], Wigeon (*Anas penelope*) [A050], Teal (*Anas crecca*) [A052], Mallard (*Anas platyrhynchos*) [A053], Shoveler (*Anas clypeata*) [A056], Tufted Duck (*Aythya fuligula*) [A061], Common Scoter (*Melanitta nigra*) [A065], Goldeneye (Bucephala clangula) [A067], Coot (*Fulica atra*) [A125], Golden Plover (*Pluvialis apricaria*) [A140], Lapwing (*Vanellus vanellus*) [A142], Common Tern (*Sterna hirundo*) [A193], Wetland and Waterbirds [A999]	The European Site is separated from the Plan Area by a distance of 53.4 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects
000440	Lough Ree SAC	53.4	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Alkaline fens [7230], Limestone pavements [8240], Bog woodland [91D0], Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0], *Lutra lutra* (Otter) [1355]	The European Site is separated from the Plan Area by a distance of 53.4 km, and shares a potential hydrological/hydrogeological connection via the WFD Catchment Upper Shannon. The LABAP will not generate a source of negative environmental impact that can lead to adverse effects on any European Site.	No	No	No Likely Significant Effects

4. SCREENING CONCLUSION

This report presents an examination of whether the Meath LABAP is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is based on best available scientific knowledge. This report has been prepared to inform the competent authority in completing their statutory obligations in relation to Appropriate Assessment, as required by Article 6(3) under Council Directive 92/43/EEC (Habitats Directive).

It can be concluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information, that the plan, individually or in combination with other plans and projects, is not likely to have a significant effect on European sites. The principal reasons for this are as follows:

- The LABAP does not introduce any source of impacts that have potential for interactions with the receiving environment.
- All actions in the LABAP are aimed at protecting and enhancing biodiversity. There is no requirement to integrate further environmental considerations into the LABAP given its intrinsic nature, its stated aims and objectives, and the potential positive effects associated with its actions.
- The LABAP is in alignment with nature legislation and higher order policy such as the 4th National Biodiversity Action Plan and inter-related plans and programmes.
- The actions in the LABAP do not support intensive land use or development projects sitting outside the land use planning framework that can cause likely significant negative environmental effects.
- The LABAP is not a statutory land use plan. The LABAP will not in and of itself set the context for future development consent. Any lower-order plans and projects supported by the Plan shall be subject to Appropriate Assessment Screening, where necessary, in accordance with the requirements of European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) or the Planning and Development Act 2000 (as amended), as the case may be.

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APPENDIX 1

Background Information on European Sites

Appendix 1 - Table 1: Quality and site characteristics of European sites considered in the assessment

Site Code	Site Name	Quality of Site	Other Site Characteristics
004080	Boyne Estuary SPA	The site comprises most of the estuary of the Boyne River. Intertidal flats occur along the sides of the channelled river. The sediments vary from fine muds in the sheltered areas to sandy muds or sands towards the river mouth. The linear stretches of intertidal flats to the north and south of the river mouth are mainly composed of sand. One or more species of Eelgrass *(Zostera spp.*) occur in the estuary. Parts of the intertidal areas are fringed by salt marshes, most of which are of the Atlantic type, and dominated by Sea-purslane (*Halimione portulacoides*). Other species present include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Lax-flowered Sea-lavender (*Limonium humile*) and Glasswort (*Salicornia spp*.). Common Cord-grass (*Spartina anglica*) occurs frequently on the flats and salt marshes. The site is of considerable ornithological importance, especially for wintering waterfowl, providing both feeding and high-tide roost areas. The Black-tailed Godwit occurs in internationally important numbers whilst nine other species have populations of national importance. The site supports 6.8% of the all-Ireland population of Knot and almost 3% of the total for Golden Plover.	The site is located on the border of Counties Louth and Meath. The river channel, which is navigable and dredged, is defined by training walls, these being breached in places. Intertidal flats occur along the sides of the channelled river. The Boyne Estuary is the second most important estuary for wintering birds on the Louth-Meath coastline. Black-tailed Godwit occurs here in internationally important numbers. A further nine species of wintering waterbirds have populations of national importance, i.e. Shelduck, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Redshank and Turnstone.
001957	Boyne Coast and Estuary SAC	One or more species of eelgrass (*Zostera spp*.) occur in the estuary. Parts of the intertidal areas are fringed by saltmarshes, most of which are of the Atlantic type, and dominated by Sea-purslane (*Halimione portulacoides*). Other species present include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Lax-flowered Sea-lavender (*Limonium humile*) and glassworts (*Salicornia spp*.). Common Cord-grass (*Spartina anglica*) occurs frequently on the flats and saltmarshes. The two sand dune systems in the site, at Baltray and Mornington, are of conservation value. A gradient from embryonic dunes to Marram (*Ammophila arenaria*) dunes and then fixed dunes is shown at both systems. Embryonic dunes are particularly well-developed at Baltray where there is active accretion. The embryonic dunes grade into a narrow band of shifting Marram dunes. Marram is dominant, though there are also such species as Cat's-ear (*Hypochoeris radicata*), Mouse-ear Hawkweed (*Hieracium pilosella*) and Dandelion (*Taraxacum agg*.).	This site includes majority of the tidal sections of the River Boyne, intertidal sand- and mudflats, saltmarshes, marginal grassland, and the stretch of coast from Bettystown (County Meath) to Termonfeckin (County Louth), including the Mornington (County Meath) and Baltray (County Louth) sand dune systems. Intertidal flats occur on the sides of the channelled river. The sediments vary from fine muds in the sheltered areas to sandy muds or sands towards the river mouth. The linear stretches of intertidal flats to the north and south of the river mouth are mainly composed of sand. The Boyne River channel, which is navigable and dredged, is defined by training walls, these being breached in places. The sand dune systems at Mornington and Baltray are subjected to high recreational pressure. This site has been somewhat modified by human activities. The river is regularly dredged to accommodate cargo ships, which causes disturbance to the bird, fish and invertebrate communities in the estuary. Several factories operate upstream from the estuary and pollution and disturbance associated with them has had an impact on the ecology of the area.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The areas of fixed dunes on the site have a typical diversity of species, including Marram, Red Fescue (*Festuca rubra*), Wild Carrot (*Daucus carota*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Restharrow (*Ononis repens*), Wild Thyme (*Thymus praecox*), Lady's Bedstraw (*Galium verum*) and Wild Pansy (*Viola tricolor*). The Boyne is the second most important estuary for wintering birds on the Louth-Meath coastline. The site supports nationally important numbers of Shelduck, Golden Plover, Lapwing, Knot, Black-tailed Godwit, Redshank, Turnstone, Oystercatcher, Grey Plover and Sanderling. Other species of regional or local importance include Brent Goose, Wigeon, Teal, Mallard, Dunlin, Curlew and Ringed Plover. An area of shingle at Baltray Dunes is also an important breeding site for Little Tern, the rarest Irish tern species, listed in Annex I of the E.U. Birds Directive. Part of the estuary is a Wildfowl Sanctuary and has been designated a Special Protection Area under the E.U. Birds Directive.	The largest area of annual vegetation of drift lines within this site is located at Baltray, north of the estuary. The vegetation is highly representative of the habitat type, which is limited to a small number of highly specialised species that are capable of coping with harsh environmental conditions including high salinity, wind exposure, and unstable substrate and lack of soil moisture. Species present include oraches (*Atriplex spp*.), Sea Rocket (*Cakile maritima*), Prickly Saltwort (*Salsola kali*) and Sea Sandwort (*Honkenya peploides*).
004158	River Nanny Estuary and Shore SPA	The saltmarsh is best developed in the eastern portion of the estuarine channel, with species such as Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Red Fescue (*Festuca rubra*) and Sea Purslane (*Halimione portulacoides*) occurring. Further up the estuary, the marsh habitats support species such as Bulrush (*Typha latifolia*) and Yellow Flag (*Iris pseudacorus*). The shoreline comprises beach and intertidal habitats. This site is of national importance for wintering waders, with populations of Golden Plover, Oystercatcher, Ringed Plover, Knot and Sanderling present. The populations of Knot and Sanderling are of note as they represent approximately 4% of their respective national totals. Herring Gull also occurs here in nationally important numbers. A range of other waterbirds also occurs, including Cormorant, Light-bellied Brent Goose, Mallard, Grey Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, Common Gull and Great Black-backed Gull.	The site comprises the estuary of the River Nanny and sections of the shoreline to the north and south of the estuary in Co. Meath. Sediments are muddy in character and edged by saltmarsh and freshwater marsh/wet grassland. The well-developed beaches of the site, which are backed in places by clay cliffs, provide high tide roosts for waterbirds. The site is of most importance as a roost area for the wintering waders, however the intertidal flats also provide a feeding habitat. The River Nanny Estuary and Shore SPA is of ornithological importance as it supports five species of wintering waterbirds and one gull species in numbers of national importance. The regular occurrence of two species listed on Annex I of the E.U. Birds Directive, i.e. Golden Plover and Bar-tailed Godwit, is of note.
004232	River Boyne and River Blackwater SPA	This site is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive. Other species which occur within the site include Mute Swan, Teal, Mallard, Cormorant, Grey Heron, Moorhen, Snipe and Sand Martin.	The River Boyne and River Blackwater SPA is a long, linear site that comprises stretches of the River Boyne and several of its tributaries; most of the site is in Co. Meath, but it extends also into Cos Cavan, Louth and Westmeath. The site includes the river channel and marginal vegetation. Majority of the site is underlain by Carboniferous limestone, however Silurian quartzite also occurs in the vicinity of Kells and Carboniferous shales and sandstones close to Trim.

Site Code	Site Name	Quality of Site	Other Site Characteristics
004236	North-west Irish Sea SPA	This site is of high ornithological importance for marine birds as the estuaries and bays that open into it, along with connecting coastal stretches of intertidal and shallow subtidal habitats, provide safe feeding and roosting habitats for waterbirds throughout the winter and migration periods. This site also provides important resources and habitat for seabirds outside of the breeding period. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Common Scoter, Red-throated Diver, Great Northern Diver, Fulmar, Manx Shearwater, Shag, Cormorant, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Little Tern, Roseate Tern, Common Tern, Arctic Tern, Puffin, Razorbill and Guillemot.	This SPA extends offshore along the coasts of counties Louth, Meath and Dublin, and is approximately 2,333km^2 in area. This SPA is ecologically connected to several existing SPAs in this area. Informed by two surveys of the western Irish Sea region in 2016 an estimated 120,232 and 34,626 individual marine birds occurred in this site during autumn and winter respectively. Those marine bird species whose estimated abundances equalled or exceeded 1% of the total estimated size of the winter assemblage are: Red-throated Diver, Fulmar, Little Gull, Kittiwake, Black-headed Gull, Common Gull, Herring Gull, Great Black-backed Gull, Razorbill and Guillemot.
004014	Rockabill SPA	The site includes two islands and the surrounding seas to a distance of 3.5 km from the islands. Lighthouse Island (the main island) is vegetated by a scrubby sward of Tree Mallow (*Lavatera arborea*), with a range of other maritime species occurring, such as Sea Mayweed (*Matricaria maritima*), Sea Campion (*Silene maritima*), Sorrel (*Rumex spp*.), Common Scurvy-grass (*Cochlearia officinalis*), Orache (*Atriplex spp*.) and Rock Sea-spurrey (*Spergularia rupicola*). The Bill (the minor island) is sparsely vegetated. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Purple Sandpiper, Roseate Tern, Common Tern and Arctic Tern. The site is currently hosts the most important Roseate tern colony in Europe. The All-Ireland Tern Survey in 1995 recorded an internationally important population of Roseate Tern and nationally important populations of Common Tern and Arctic Tern. Intensive management and monitoring has seen the colony grow to 1,093 pairs in 2010. This represents approximately 65% of the entire European biogeographic population. Other breeding seabirds while utilise the site include Black Guillemot and a small colony of Kittiwake.	Rockabill consists of two small, low-lying, granitic islets situated approximately 7 km off the Co. Dublin coast. The islands are separated by a narrow channel, though are connected at low spring tides. The seas surrounding the islands, to a distance of 3.5 km, are included within the SPA to protect the foraging resource of the internationally important Roseate Tern population on the site.
001398	Rye Water Valley/Carton SAC	Reed Sweet-grass (*Glyceria maxima*) is frequent around the associated lakes, along with Yellow Iris (*Iris pseudacorus*), Reed Canary-grass (*Phalaris arundinacea*), Bulrush (*Typha latifolia*), Water Forget-me-not (*Myosotis scorpioides*), Marsh-marigold (*Caltha palustris*) and starworts (*Callitriche spp*.). To the north-west of Carton Bridge a small cluster of willows (*Salix spp*.), with dogwood (*Cornus sp*.), Alder (*Alnus glutinosa*), Ash (*Fraxinus excelsior*) and Elder (*Sambucus nigra*) occurs. The ground	This site is located between Leixlip and Maynooth, in Counties Meath and Kildare, and extends along the Rye Water, a tributary of the River Liffey. The Rye Water in Carton Estate is dammed at intervals, creating a series of lakes. The conservation importance of the site lies in the presence of several rare and threatened plant and animal species, and the presence of petrifying springs, a habitat type listed on Annex I of the E.U. Habitats Directive. The woods found on Carton Estate and their birdlife are of additional interest.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		flora found here includes Golden Saxifrage (*Chrysosplenium oppostifolium*), Meadowsweet (*Filipendula ulmaria*), Common Valerian (*Valeriana officinalis*), Wavy Bitter-cress (*Cardamine flexuosa*) and Bittersweet (*Solanum dulcamara*). Hairy St. John's-wort (*Hypericum hirsutum*), a species legally protected under the Flora (Protection) Order, 1999, occurs in Carton Estate. Green Figwort (*Scrophularia umbrosa*), a species listed in the Red Data Book, occurs on the site in several locations. The woods at Carton Demesne are also the site of a rare Myxomycete fungus, *Diderma deplanatum*. The mineral spring found at the site is of a type considered to be rare in Europe and is a habitat listed on Annex I of the E.U. Habitats Directive. The Red Data Book species Blue Fleabane (*Erigeron acer*) is found at the site. The site is an important spawning ground for Trout, Salmon and White-clawed Crayfish (*Austropotamobius pallipes*). The rare Narrow-mouthed Whorl Snail and Desmoulin's Whorl Snail occur in marsh vegetation at the site. Both are rare in Ireland and in Europe and are listed on Annex II of the E.U. Habitats Directive.	
002342	Mount Hevey Bog SAC	The site comprises a raised bog that includes both areas of high bog and cutover bog. Mount Hevey Bog is a site of considerable conservation significance as it comprises a raised bog. The site supports a good diversity of raised bog microhabitats, including hummock/hollow complexes, pools, flushes and regenerating cutover, as well as a number of scarce plant species. Forestry occurs on the most easterly section of the site. There is abandoned cutover bog throughout the bog and particularly on the western section. There are some wet and actively regenerating areas of the cutover along the southern margins of the western lobe. Much of the high bog has vegetation typical of the Midlands Raised Bog type. The vegetation consists of Heather (*Calluna vulgaris*), cottongrasses (*Eriophorum angustifolium* and *E. vaginatum*), Bog Asphodel, White Beak-sedge and midland indicator species Bog-rosemary (*Andromeda polifolia*) and the bog moss *Sphagnum magellanicum*. The wet quaking area in the eastern section of the bog has pools that support the bog moss *Sphagnum cuspidatum*, with White Beak-sedge, cottongrasses and Heather at the edges. The hummock/hollow complex supports a range of hummock-forming bog mosses, including *Sphagnum imbricatum* and *S. fuscum*, as well as other species such as *S. capillifolium*, *S. magellanicum* and *S. papillosum*.	Mount Hevey Bog is situated approximately 4 km north-east of Kinnegad, in the townlands of Cloncrave, White Island, Aghamore, Kilwarden and Kilnagalliagh. The site consists of a long, narrow bog separated into four sub-sections; the larger eastern section supports a wet quaking area with hummock/hollows and pool complex. Hummock/hollow complex also occurs in the south-west lobe and the north-west lobe of the site. Current land use on the site consists of limited mechanised peat-cutting, mostly on the eastern end of the high bog. There are areas of old peat cuttings around the site with some abandoned regenerating cutover in parts. The area to the east of the site has been afforested. Areas of cutover have been reclaimed for agricultural purposes. Damaging activities associated with these land uses include drainage throughout the site (both old and recent) and burning of the high bog. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability.

Site Code	Site Name	Quality of Site	Other Site Characteristics
002299	River Boyne and River Blackwater SAC	The main areas of alkaline fen in this site are concentrated in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. The hummocky nature of the local terrain produces frequent springs and seepages which are rich in lime. Diversity of plant and animal life is high in the fen and the flora includes many rarities. Plants of interest include Narrow-leaved Marsh-orchid (*Dactylorhiza traunsteineri*), Fen Bedstraw (*Galium uliginosum*), Cowbane (*Cicuta virosa*), Frogbit (*Hydrocharis morsus-ranae*) and Least Bur-reed (*Sparganium minimum*). The rare plant Round-leaved Wintergreen (*Pyrola rotundifolia*) occurs at the site. This species is listed in the Red Data Book and this site represents its only occurrence in Co. Meath. The dominant habitat along the edges of the river is freshwater marsh, and the following plant species occur commonly in these areas: Yellow Iris, Creeping Bent (*Agrostis stolonifera*), Canary Reed-grass (*Phalaris arundinacea*), Marsh Bedstraw (*Galium palustre*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). In the wetter areas Common Meadow-rue (*Thalictrum flavum*) is found. The secondary habitat associated with the marsh is wet grassland and species such as Tall Fescue (*Festuca arundinacea*), Silverweed (*Potentilla anserina*), Creeping Buttercup (*Ranunculus repens*), Meadowsweet and Meadow Vetchling (*Lathyrus pratensis*) are well represented. The site is an important spawning ground for Atlantic Salmon (*Salmo salar*). This site is also important for the populations of River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site. This site also supports various species listed in the Irish Red Data Book; Pine Marten, Badger, Irish Hare and Common Frog. Whooper Swans winter regularly at several locations along the Boyne and Blackwater Rivers.	This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part, with areas of Upper, Lower and Middle well represented. Wet woodland fringes many stretches of the Boyne. Habitats present along the site include lowland dry grassland, improved grassland, reedswamp, weedy waste ground, scrub, hedge, drainage ditch, canal, wet grassland, freshwater marsh, and wet woodland. Intensive agriculture is the main land use along the site. Much of the grassland is in very large fields and is improved. Silage harvesting is carried out. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the lakes. In the more extensive agricultural areas sheep grazing is carried out. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area. Drainage of the adjacent river systems also impacts on the many small wetland areas throughout the site.
002203	Girley (Drewstown) Bog SAC	This site is of considerable conservation significance as it comprises a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This site supports regenerating raised bog microhabitats, including hollows and wet flats, which add to the diversity and scientific value of the site. Due to the clear-felling of conifers and blocking of drains, water-levels on the high bog have risen and remain high throughout the year. Consequently, raised bog vegetation has returned to the wetter areas of the high bog. Hare's-tail Cottongrass (*Eriophorum vaginatum*) dominates these wet hollows with Bilberry (*Vaccinium myrtillus*), Heather (*Calluna vulgaris*)	This site consists of 32.26 ha of raised bog (15.05 ha of high bog and 17.21 ha of cutover bog) which occupies the south-western part of Girley Bog NHA (Site Code 001580). Girley Bog is a Midland type raised bog developed in a basin. It is situated 5.5 km north of Athboy in the townland of Drewstown, Co. Meath. The site is part of a raised bog that includes both areas of high bog and cutover bog. It is bordered by open high bog on its northern and eastern margins, by agricultural land on its western margin and by a conifer plantation on cutover bog on its southern side. The underlying geology is carboniferous limestone.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		and Cross-leaved Heath (*Erica tetralix*) along with Bog Rosemary (*Andromeda polifolia*)and Cranberry (*Vaccinium oxycoccos*). Overall, the high bog appears to be re-wetting and limited areas of wet flats and hummock/hollows have developed. However, the majority of the restored areas have not yet developed vegetation characteristic of the wettest conditions and there is a considerable amount of conifer and birch regeneration occurring in these areas. Two areas in the north-east of the site covering 2.28 ha have been identified by hydrological modelling as Degraded Raised Bog habitat. They now have standing surface water in the hollows and pools for most of the year with considerable areas of rapidly regenerating *Sphagnum* species. Cherry Laurel (*Prunus laurocerasus*), Rhododendron (*Rhododendron ponticum*) and conifers are regenerating in the area of cutover bog to the south of the site and are subject to ongoing control programs.	This site is one of the few remaining raised bogs in County Meath and represents the eastern extreme of the range of raised bogs in the country. Current land use on the site consists of conservation management with the removal of conifer plantations and the blocking of the drainage associated with these plantations, both on the high bog and on the cutover. In addition, there have been fires on the adjacent bog and within the SAC causing some damage to the recovering vegetation. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site and pose a continuing threat to its viability. There is also some dumping around the site.
002120	Lough Bane and Lough Glass SAC	Lough Bane is a good example of a hard water marl lake with well-developed stonewort (*Chara spp*.) communities. Sampling of the aquatic flora has shown the presence of at least four species of Charophyte, i.e. *Chara rudis* (dominant in deep water), *C. curta* (shallow water at north shore), *C. globularis* and *C. contraria* (both mid-south shore). Much of the shoreline of the lakes has a fringe of wetland vegetation, mostly Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), but also some Water Horsetail (*Equisetum fluviatile*) and Bottle Sedge (*Carex rostrata*). At the east and west ends of Lough Bane the swamp vegetation is particularly well developed and there is also fen vegetation. Species include Jointed Rush (*Juncus articulatus*), Water-cress (*Nasturtium officinale*), Meadowsweet (*Filipendula ulmaria*), Devils'-bit Scabious (*Succisa pratensis*), Meadow Thistle (*Cirsium dissectum*), Marsh Bedstraw (*Galium palustre*) and Grass-of-parnassus (*Parnassia palustris*). The lakes and fringing wetlands support a varied avifauna, including Little Grebe, Cormorant, Lapwing, Curlew and Snipe. The quality of the water appears good, and Lough Bane has been classified as a very oligotrophic system. However, as it is a small water body and situated in a valley, it is vulnerable to water pollution. A further threat comes from afforestation within the catchment - should there be an increase in the areas under commercial forestry, the quality of the water could be affected. Overall, this is a fine example of a hard water marl lake system with good Chara communities.	This site is located on the Meath/Westmeath border. It comprises three lakes situated in a shallow valley. The outflow is not very substantial and partly overgrown with vegetation. The connection between Lough Glass and Lough Bane has now been severed and the flow from Lough Glass is diverted to the south-west. The water level has dropped over the years and has exposed soft marl along parts of the shore. Mixed woodland occurs along parts of the south and north shores. Dry calcareous grassland (mostly unimproved) is found in a few areas, notably at Noggin Hill.

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001810	White Lough, Ben Loughs and Lough Doo SAC	This site is of considerable conservation significance for its hard water lakes and for the occurrence of White-clawed Crayfish, a species listed in Annex II of the E.U. Habitats Directive. Lough Doo has a very limited aquatic and marginal flora while all the rest are colonised by a wide, dense fringe of Great Fen-sedge (*Cladium mariscus*) swamp. The bottom of Lough Doo is covered by an extensive mat of stonewort species (*Chara spp*.), with a few sparse stands of Common Reed (*Phragmites australis*). Areas of wet woodland dominated by willows (*Salix spp*.) fringe some of the lakes, and elsewhere wet grassland and freshwater marsh occur. In places peat formation and acidification is indicated by the presence of heath species.	White Lough, Ben Loughs and Lough Doo SAC is comprised of four hard water lakes in a small, poorly-drained valley, 4 km east of Castlepollard, Co. Westmeath.
002340	Moneybeg and Clareisland Bogs SAC	This site is of considerable conservation significance as it comprises two raised bogs with semi-natural lake margins. The site supports a diversity of raised bog habitats including hummock/hollows and pools. The high bogs have vegetation typical of Midland Raised Bog type consisting of Heather (*Calluna vulgaris*), Hare's-tail Cottongrass (*Eriophorum vaginatum*), White Beak-sedge and bog mosses (*Sphagnum spp*.), with Cranberry (*Vaccinium oxycoccos*) and Bog-rosemary (*Andromeda polifolia*) also present. On Moneybeg Bog, the bog mosses *Sphagnum capillifolium*, *S. papillosum*, *S. tenellum* and *S. imbricatum* are plentiful in the extensive wet area, with many large pools lined by bog mosses, including the rare *S. fuscum*. Great Sundew (*Drosera anglica*) is present in some pools, along with the bog moss *S. cuspidatum*. A few of the pools are completely infilled with bog mosses and Common Cottongrass (*E. angustifolium*). Clareisland Bog has a semi-natural margin with Lough Sheelin and an extensive wet area with a high cover of bog mosses and pools. Majority of the pools are infilled with Bog Asphodel, White Beak-sedge and bog mosses. Great Sundew and the bog moss *S. cuspidatum* occur in the pools and other bog moss species occur at the pool edges, especially *S. capillifolium*, *S. papillosum*, *S. magellanicum* and the rare *S. fuscum*. The lichen *Cladonia portentosa* is common, along with Bog-rosemary and Cranberry growing through the bog mosses.	This site is located on the border of Counties Meath and Westmeath. It consists of two lowland raised bogs at Moneybeg and Clareisland, situated on the south and south-west shores of Lough Sheelin. The raised bog habitat includes both areas of high bog and cutover bog. The high bog at Moneybeg consists of a single small dome with extensive cutover areas to the east and west. Overall, the high bog is flat, with slopes associated with the southern margin. There is a wet area with a characteristic micro-topography of pools, hummocks and hollows. The raised bog is surrounded by agricultural land, which in the east slopes steeply down to the cutover. There is forestry to the south and south-west. The raised bog at Clareisland consists of a small, linear high bog extending along the shore of Lough Sheelin with only limited cutover areas to the east and west. At Moneybeg Bog there are extensive areas of cutover to the east and west, which have some active peat-cutting. Land use at Moneybeg Bog includes active peat-cutting to the east and west and forestry along the western margin. Current land use at Clareisland Bog includes peat-cutting to the west and north-west of the high bog and forestry along the southern margin. Damaging activities associated with these land uses include drainage and burning.
004065	Lough Sheelin SPA	This site is of national importance for four species of wintering wildfowl and is one of the main Midlands lakes sites for wintering birds. Despite variable water quality in recent decades, Lough Sheelin remains a very important site for wintering waterfowl, particularly diving duck. It supports nationally important populations of four species, i.e. Great Crested Grebe (140), Pochard (546), Tufted Duck (762) and Goldeneye (224) - all figures are mean peaks for the 5 winters 1995/96-1999/2000.	Lough Sheelin is a medium to large-sized lake, located on the border of Counties Cavan, Westmeath and Meath.

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		A number of other species occur in relatively low numbers, including Mute Swan (28), Mallard (76), Coot (24), Little Grebe (19), Cormorant (42) and Black-headed Gull (202). The shore of the site is wooded in places and there are some very small offshore islands with willows (*Salix aurita* and *S. cinerea*). The islands are fringed by swamp communities of Common Reed (*Phragmites australis*), Common Clubrush (*Scirpus lacustris*) and Bottle Sedge (*Carex rostrata*). A range of Charophytes have been recorded at the site, including *Chare denudata*, a Red Data Book species.	
000006	Killyconny Bog (Cloghbally) SAC	This site is of considerable conservation value as it is one of the largest extant areas of relatively intact raised bog in the north-east of Ireland. The site contains good examples of the E.U. Habitats Directive Annex I priority habitat active raised bog, and the non-priority habitat degraded raised bog (capable of regeneration). Though some marginal drainage and cutting has taken place, the central part of the bog is relatively intact. While the surface of the bog is generally homogeneous some higher areas with dense tussocks of Hare's-tail Cottongrass (*Eriophorum vaginatum*) are found; these provide shelter for Hares. There are also lines of water movement, shown by the occurrence of Common Sedge (*Carex nigra*) and Soft Rush (*Juncus effusus*). The degraded bog is largely restricted to the margins of the high bog areas where drainage effects are most pronounced. Much of the degraded bog surface is dominated by Heather (*Calluna vulgaris*) and Deergrass (*Scirpus cespitosus*) with Bog Asphodel and White Beak-sedge dominating in the wetter areas. In the driest areas of degraded raised bog there is colonisation by plant species such as Downy Birch (Betula pubescens) and Bracken (Pteridium aquilinum). The uncut high bog area is surrounded by extensive cutover surfaces and a portion of this cutover has been planted with conifers. Bird species found on the bog include Meadow Pipit, Curlew, Kestrel and Long-eared Owl.	Killyconny Bog is a raised bog situated on the Cavan/Meath border. It is underlain by Lower Palaeozoic shales and consists of two small basins which have coalesced over a low drumlin ridge.
004061	Lough Kinale and Derragh Lough SPA	This site is important for wintering waterfowl, particularly diving duck. It supports nationally important populations of Pochard and Tufted Duck. A large population of Mute Swan also uses the site. Several other species are found, in relatively low numbers, including Great Crested Grebe, Mallard and Goldeneye. Marginal grassland areas outside of the site attract feeding wildfowl and waders such as Lapwing and Golden Plover. White-clawed Crayfish (*Austropotamobius pallipes*), a species	Lough Kinale is situated immediately downstream of Lough Sheelin. Derragh Lough, a much smaller system, is connected to Lough Kinale and the Inny River. The site is located on the border of Counties Cavan, Longford and Westmeath. Areas of bog occur around the margins of the lakes in places, some having been planted with conifers

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		that is listed on Annex II of the E.U. Habitats Directive, has been recorded at the waterway linking Lough Kinale and Derragh Lough. The trophic status of the lake has varied greatly since the 1970s due to pollution. Reed swamp is frequent around the lakes, with Common Reed (*Phragmites australis*) and Tufted-sedge (*Carex elata*) occurring commonly. A calcium-rich small sedge marsh occurs along parts of the shoreline. This is characterised by species such as Long-stalked Yellow-sedge (*Carex lepidocarpa*), Marsh Pimpernel (*Anagallis tenella*), Knotted Pearlwort (*Sagina nodosa*), Marsh Pennywort (*Hydrocotyle vulgaris*) and Water Mint (*Mentha aquatica*).	
002121	Lough Lene SAC	This site supports a range of pondweeds (including *Potamogeton perfoliatus* and *P. lucens*), Canadian Pondweed (*Elodea canadensis*) and a variety of stoneworts (*Chara spp*.), such as *C. pedunculata* and *C. curta* which are marl or hard water lake indicators. A narrow fringe of emergent plant species dominated by Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris* subsp. *lacustris*) occurs along some areas of the lakeshore. Patches of wet woodland colonise former areas of cut-away bog and other low-lying areas close to the lake, and are dominated by willows (*Salix spp*.), birch (*Betula sp*.) and Alder (*Alnus glutinosa*), with patches of Common Reed also occurring. These areas support a rich ground flora. Freshwater marsh/fen vegetation, with such species as Purple Moor-grass (*Molinea caerulea*), Bottle Sedge (*Carex rostrata*), Black Bog-rush (*Schoenus nigricans*) and Marsh Cinquefoil (*Potentilla palustris*) occurs in some areas. Such areas support a population of the rare Round-leaved Wintergreen (*Pyrola rotundifolia* subsp. *rotundifolia*). Bird species using the site include Mute Swan, Teal, Pochard, Great-crested Grebe, Little Grebe, Tufted Duck, Grey Heron, Water Rail, Mallard, Golden Eye, Cormorant and Wigeon. The surrounding lands are used by Snipe, Lapwing and Curlew.	This site is situated 4 km north-east of Castlepollard in Co. Westmeath. It is a deep, clear, hard-water lake with marl deposition. Much of the lakeshore is accessible to grazing cattle and the surrounding fields have been heavily improved. Stoneworts may become gradually displaced as the principal primary producers by phytoplankton or vascular plants if the site becomes artificially enriched with nutrients.
002201	Derragh Bog SAC	This site is of conservation significance as it is comprised of raised bog. The site E.U. Habitats Directive Annex I priority habitat Bog Woodland along with the non-priority habitat Degraded Raised Bog (capable of regeneration). Although this Bog is a small example of a raised bog, its development in close association with the lakes and their floodplains and the relatively intact wetland transition between the two systems make it unusual in a western European context.	Derragh Bog SAC includes most of the raised bog system known as Derragh Bog which occurs within Lough Kinale and Derragh Lough NHA (000985). The boundary in the west and south of the site is contiguous with the boundary of Lough Kinale and Derragh Lough SPA (site code 004061). This bog is an example of a floodplain raised bog which borders two lakes, Lough Kinale to the west and Derragh Lough to the south, the River Inny to the east and wet agricultural grassland to the north.

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		In addition, its location towards the north-eastern extreme of the range of raised bogs in Ireland and its close proximity to Moneybeg and Clare Island Bogs SAC (002340) increases its ecological importance. Derragh Bog SAC consists of 37.62 ha of raised bog (8.33 ha of high bog, 20.29 ha of open cutover and 9 ha of birch woodland on cutover grading into fen and swamp on the lake shores). The cutover consists of two types; relatively well-drained spread-grounds, and an older, low-lying area of uneven cutover. This area and the transitions through woodland to open water are the areas of greatest ecological interest on the site. The latter area has been regenerating for some time and contains wet flats and hollows with the beginnings of active bog and Bog Woodland formation. Raised bog vegetation is improving in quality. Bog mosses are regenerating, including *Sphagnum papillosum, S. capillifolium, S. palustre, S.magellanicum, S. pulchrum and S. subnitens*, with *Sphagnum cuspidatum* in drains. However, the majority of the recently cutover areas have not yet developed vegetation characteristic of wet bog conditions.	To the west and south there is a full transition from high bog to cutover bog to semi-natural birch woodland, fen and swamp to Lough Kinale and Derragh Lough. The wettest parts of this area, covering 0.67 ha, are recovering well and have a high diversity and cover of typical Midland raised bog species. It is expected that these areas will develop into Active Raised Bog habitat within 30 years and can therefore be considered as Degraded Raised Bog habitat.
001459	Clogher Head SAC	This site supports one of the best-known examples of coastal heath in County Louth and contains two habitats listed in Annex I of the E.U. Habitats Directive (Vegetated Sea Cliffs and Dry Heath). The dry heath at Clogher Head is dominated by Gorse (*Ulex europaeus*), Bell Heather (*Erica cinerea*), Heather (*Calluna vulgaris*), Crested Dog's-tail (*Cynosurus cristatus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), English Stonecrop (*Sedum anglicum*) and Common Bird's-foot-trefoil (*Lotus corniculatus*). Other species at the site include Lousewort (*Pedicularis sylvatica*), Cock's-foot (*Dactylis glomerata*) and Ribwort Plantain (*Plantago lanceolata*). A salt-tolerant community, comprised of Thrift, Common Scurvygrass (*Cochlearia officinalis*), Sea Rush (*Juncus maritimus*) and Distant Sedge (*Carex distans*), occurs along the shore.	This site is a promontory of Silurian quartzite, located approximately 10 km north-east of Drogheda in County Louth. Areas of sea cliff, bedrock shore and dry grassland also occur within the site. The main land use at this site is sheep grazing. The site is very susceptible to damage from a variety of sources including fire, over-grazing and amenity pressures such as littering and construction.
000925	The Long Derries, Edenderry SAC	This site is of botanical importance due to the presence of good quality dry, calcareous grassland, gravel pit flora and the presence of three rare plant species, two of which are legally protected. The presence of a transition habitat from esker to peatland, and a varied bird population, including the rare Nightjar and Partridge, adds to the importance of the site. An important aspect of this site is the presence of the rare, Red Data Book species Blue Fleabane (*Erigeron acer*) and Green-winged Orchid (*Orchis morio*), as well as the legally protected (Flora (Protection) Order, 1999), Basil Thyme (*Acinos arvensis*).	This site is located in Co. Offaly and is part of a low esker ridge running from Edenderry to Rathdangan. At the western section of this site activities connected with the harvesting of peat occur. The eastern section of the site is grazed by cattle and horses. Although gravel extraction has helped create habitats for some plant species, this could result in excessive damage if uncontrolled. Dumping of rubbish and old railway tracks is undesirable, as is interference with Badger setts.

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		A large population of the latter species occurs in the grassland communities, including those in the transition to peatland zone. The summer birdlife of this area includes Sand Martin, Whinchat, Whitethroat and Cuckcoo. Nightjar, a rare species listed in Annex I of the E.U. Birds Directive, breeds on the site. Partridge, an endangered species in Ireland and one listed in the Red Data Book, is known at the site. Badgers have setts along some of the mature hedgerows.	
004122	Skerries Island SPA	This site is of high ornithological importance for both breeding seabirds and wintering waterfowl. Internationally important populations of breeding Cormorant and nationally important populations of two other breeding seabirds occur on the islands. The wintering population of Light-bellied Brent Goose is of international importance and four other species occur in nationally important numbers during the winter. The presence of Golden Plover and Short-eared Owl, two species that are listed on Annex I of the E.U Birds Directive, is of note. The vegetation of the islands is dominated by rank grasses, with Brambles (*Rubus spp*.) and other species such as Hogweed (*Heracleum sphondylium*) occurring commonly.	The Skerries Islands are a group of three small uninhabited islands, Shenick's Island, St Patrick's Island and Colt Island, situated between 0.5 km and 1.5 km off the north Co. Dublin coast. The three islands are all low-lying with maximum heights ranging from 8 m to 13 m above sea level. St Patrick's Island and Colt Island have low cliffs, while Shenick's Island has more extensive expanses of intertidal rocky shore and sand flats. Shenick's Island also has a shingle bar and is connected to the mainland at low tides.
004091	Stabannan-Braganstown SPA	The site is of international ornithological importance as it supports an important wintering population of Greylag Goose. It is of note that three species that regularly occur at the site are listed on Annex I of the E.U. Birds Directive, i.e. Greenland White-fronted Goose, Whooper Swan and Golden Plover. The population of Greylag Goose utilising the site has declined in recent years but is still of national importance.	This site is situated approximately 4 km inland from Dundalk Bay in County Louth. It is a small, flat alluvial plain adjacent to the River Glyde and is bounded to the north and south by low, rolling hills.
003000	Rockabill to Dalkey Island SAC	This site is of conservation importance for reefs, listed on Annex I, and Harbour Porpoise, listed on Annex II, of the E.U. Habitats Directive, as well as terns (Arctic, Common and Roseate). Terns are known to utilise the site as a staging area after breeding. Other seabirds known to use the site include Kittiwake, Razorbill, Guillemot, Puffin, Fulmar, Shag, Cormorant, Manx Shearwater, Gannet and gulls. This site also provides important habitats for Harbour Porpoise within the Irish Sea. This species occurs year-round within the site and comparatively high group sizes have been recorded. The site contains a wide array of habitats believed to be important for Harbour Porpoise including inshore shallow sand and mudbanks and rocky reefs scoured by strong current flow. The site also supports Common Seal and Grey Seal. Bottle-nosed Dolphins have also occasionally been recorded in the area. Several other marine mammals have been recorded at this site including Minke, Fin and Killer Whales and Risso's and Common Dolphins.	This site includes a range of dynamic inshore and coastal waters in the western Irish Sea. These include sandy and muddy seabed, reefs, sandbanks and islands. This site extends southwards, in a strip approximately 7 km wide and 40 km in length, from Rockabill, running adjacent to Howth Head, and crosses Dublin Bay to Frazer Bank in south Co. Dublin. The site encompasses Dalkey, Muglins and Rockabill islands.

Site Code	Site Name	Quality of Site	Other Site Characteristics
001387	Ballynafagh Lake SAC	This site is of ornithological and molluscan importance. The site supports a high diversity of molluscan species, with some rare species recorded, including *Vertigo moulinsiana*, a species that is listed on Annex II of the E.U. Habitats Directive. Breeding birds of the lake include Little Grebe, Mallard, Moorhen, Coot, Snipe and Water Rail. Sedge Warbler, Reed Bunting and Whitethroat breed within the site. Wintering waterfowl include Whooper Swan, Teal, Mallard, Golden Plover and Curlew. A wide diversity of insects is also found at the site, including the Marsh Fritillary butterfly, a species listed in Annex II of the E.U. Habitats Directive. This site also provides important habitats for two rare snail species: *Vertigo moulinsiana* and *Pisidium pseudosphaerium*. Alkaline fen vegetation occurs at the lake edge, including a plant community dominated by Blunt-flowered Rush (*Juncus subnodulosus*) and Black Bog-rush (*Schoenus nigricans*), and with frequent sedges (e.g. *Carex lepidocarpa* and *C. rostrata*). Other species in this area include Marsh-marigold (*Caltha palustris*), Marsh Lousewort (*Pedicularis palustris*), Marsh Arrowgrass (*Triglochin palustris*), Water Mint (*Mentha aquatica*) and Bulrush (*Typha latifolia*). The lake is surrounded by acid grassland, heath and bog. Here the vegetation includes Common Bent (*Agrostis capillaris*), Purple Moor-grass (*Molinia caerulea*), Bog-myrtle (*Myrica gale*), Bracken (*Pteridium aquilinum*), Gorse (*Ulex europaeus*) and Heather (*Calluna vulgaris*). Wet woodland of birch (*Betula spp.*), willow (*Salix spp.*) and Alder (*Alnus glutinosa*) occurs in the north-west corner of the lake.	Ballynafagh Lake is located approximately 2 km north-west of Prosperous in County Kildare. It is a shallow alkaline lake with some emergent vegetation. The Blackwood Feeder, which connects Ballynafagh Lake to the Grand Canal, is also included in the site. The main land use at the site is fishing in the lake.
000391	Ballynafagh Bog SAC	This site is of conservation importance as it contains examples of the Annex 1 habitats active raised bog, degraded raised bog and Rhynchosporion vegetation. Of particular note is that the bog is one of the most easterly examples of a relatively intact raised bog in Ireland. The site is within the territory of a breeding pair of Merlin, a species listed on Annex I of the E.U. Birds Directive. Several pairs of Curlew and Snipe breed on the site also. Scrub species such as Stonechat, Redpoll and Long-tailed Tit occur on the cut-away. In the wet, active area towards the centre of the site, a system of tear pools occurs, grown over with bog mosses (*S. capillifolium* and *S. magellanicum*). There is a small pool-and-hummock system, with pools colonised by another species of bog moss, *S. cuspidatum*. White Beak-sedge, Cottongrasses (*Eriophorum spp.*) and the insectivorous Great Sundew (*Drosera anglica*) are abundant in wet channels. Bog rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*) are found	This site is a raised bog situated about 1 km west of Prosperous in Coounty Kildare. The area is directly underlain by muddy, fossiliferous limestones, interbedded with calcareous shales. The subsoils are predominantly clay-rich tills. All are of low permeability. The site comprises a relatively small core of uncut high bog (approx. 70 ha), which is surrounded by a more extensive area of cutover bog (approx. 90 ha). The high bog area can be divided into a wet core of active bog which covers an area of 23 ha, surrounded by approximately 44 ha of degraded raised bog which is experiencing drying-out at present. The bog has been damaged by afforestation, mechanised peat-cutting and drainage. These three activities pose the main threats to the survival of raised bogs. In addition, a significant proportion of the bog surface was badly damaged by fire in the mid-1990s.

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		on the hummocks. In places there is some colonization by low bushes of Downy Birch (*Betula pubescens*) and Gorse (*Ulex europaeus*) which demonstrates the locally dry peat conditions which exist. A large portion of the site contains old cut-away bog colonised by rushes (*Juncus spp*.) and Common Cottongrass (*Eriophorum angustifolium*), with Downy Birch forming patches of scrub/woodland.	
004043	Lough Derravarragh SPA	This site is of major ornithological importance as it is one of the most important midland lakes for wintering waterfowl, supporting nationally significant populations of Whooper Swan, Pochard, Tufted Duck and Coot, and at times is used by the internationally important population of Greenland White-fronted Goose. The Pochard population is of note as it represents over 6% of the all-Ireland population total, and at times has exceeded the threshold for international importance (i.e. 3,500). Lough Derravaragh is a Ramsar Convention site. At the western end of the lake are extensive areas of swamp dominated by Common Reed (*Phragmites australis*). Elsewhere along the shore there is freshwater marsh vegetation dominated by sedges (*Carex spp*.) and tussock-forming grasses such as Tufted Hair-grass (*Deschampsia cespitosa*) and fescues (*Festuca spp*.), with a range of flowering herbs. The lakeshore is a mineral-rich substrate and several plant species of fen habitats occur in abundance, such as Black Bog-rush (*Schoenus nigricans*) and Long-stalked Yellow-sedge (*Carex lepidocarpa*). Deciduous woodland fringes the lake in some areas.	This site is located approximately 12 km north of Mullingar town in County Westmeath. It is a medium- to large-sized lake of relatively shallow water (maximum depth 23 m). The lake extends along a south-east/north-west axis for approximately 8 km. The Inny River, a tributary of the River Shannon, is the main inflowing and outflowing river. It is a typical limestone lake with water of high hardness and alkaline pH and is classified as a mesotrophic system.
004025	Malahide Estuary SPA	This site provides both feeding and roosting areas for a range of wintering waterfowl. The lagoonal nature of the inner estuary is of particular value as it increases the diversity of birds which occur. The site is of high conservation importance, with internationally important populations of Light-bellied Brent Goose and Black-tailed Godwit, and nationally important populations of a further 12 species: Great Crested Grebe, Shelduck, Pintail, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Knot, Dunlin, Bar-tailed Godwit and Redshank. Two of the species which occur regularly (Golden Plover and Bar-tailed Godwit) are listed on Annex I of the E.U. Birds Directive. The estuary also attracts other migrant wader species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. These occur mainly in autumn, though occasionally in spring and winter. Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Grey Herons breed nearby and feed regularly within the site.	This site is situated in north County Dublin. The site encompasses the estuary, saltmarsh habitats and shallow subtidal areas at the mouth of the estuary. A railway viaduct crosses the site and has led to the inner estuary becoming lagoonal in character and only partly tidal. Much of the outer part of the estuary is well-sheltered from the sea by a large sand spit. This spit is now mostly converted to golf-course. The outer part empties almost completely at low tide and there are extensive intertidal flats exposed.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		Malahide Estuary (also known as Broadmeadow Estuary) is a Ramsar Convention site. Substantial stands of eelgrass (both *Zostera noltii* and *Z. angustifolia*) occur in the sheltered part of the outer estuary, along with Tasselweed (*Ruppia maritima*). Green algae, mostly *Ulva spp*., are frequent on the sheltered flats. Common Cord-grass (*Spartina anglica*) is well established in the outer estuary and in the innermost part of the site. The intertidal flats support a typical macro-invertebrate fauna, with polychaete worms (*Arenicola marina* and *Hediste diversicolor*), bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*, the small gastropod *Hydrobia ulvae* and the crustacean *Corophium volutator*.	
000582	Raheenmore Bog SAC	This site is a midland raised bog of high conservation importance as it contains examples of the priority Annex I habitat active raised bog, and the non-priority habitats degraded raised bog and depressions on peat substrates (Rhynchosporion). This site contains a relatively large wet central core of active raised bog. The hummocks are often colonised by the bog mosses *S. imbricatum* and *S. fuscum*. Pools are well-represented, and it is the pool edges and wet lawns that the Rhynchosporion habitat is best developed. These areas are typically dominated by the bog moss *S. cuspidatum*. The associated vascular plant flora is species-poor, with Bogbean (*Menyanthes trifoliata*), White Beak-sedge, Bog Asphodel, Common Cottongrass (*Eriophorum angustifolium*) and Great Sundew (*Drosera anglica*) being the main species. Degraded raised bog dominates the marginal areas of the uncut high bog where drainage effects are most pronounced. The vegetation of these degraded areas is still dominated by plant species typical of intact raised bog, though the vegetation tends to be less species-rich than in intact areas and the cover of *Sphagnum* is usually below 25%. The typical dominant species in degraded areas include Heather (*Calluna vulgaris*), Bog Asphodel, Cottongrasses (*Eriophorum spp*.), Deergrass, Cross-leaved Heath (*Erica tetralix)* and Carnation Sedge. Mineral springs feeding the lagg zone still survive on the western side of the site. This site is within the breeding territory of a pair of Merlin, a scarce species in Ireland and one that is listed on Annex I of the E.U. Birds Directive. Other typical bogland birds which breed at this site include Red Grouse (a Red-listed species) and Snipe.	This raised bog site developed in a small basin in the catchment of two major river systems i.e. the Brosna and the Boyne. It is situated approximately 5 km from Daingean in Co. Offaly. The peat is up to 15 m deep in places. The bog has a well-developed hummock and hollow system. Of particular notes is that this is one of the few raised bogs where restoration of the lagg zone remains feasible. The high bog is surrounded by cutover bog. The structure of the bog habitat has been affected by drainage. This has resulted from peat-cutting along the margins of the bog which has led to the lowering of the water table within the adjoining, intact high bog areas.

Site Code	Site Name	Quality of Site	Other Site Characteristics
002205	Wooddown Bog SAC	This site is of considerable conservation significance as it comprises a raised bog. This site now supports regenerating raised bog microhabitats, including hollows and wet flats, a soak system and flushes, as well as several scarce plant species. The small soak located on the cutover at the north-west margin of the high bog supports a low canopy Downy Birch (*Betula pubscens*) and Willow (*Salix spp.*) woodland. The cutover to the south supports Downy Birch and Common Gorse (*Ulex europaeus*) scrub. Young trees of Lodgepole Pine (*Pinus contorta*) are encroaching onto the adjacent high bog to the north and west of the site through natural regeneration. The open high bog vegetation is dominated by Heather (*Calluna vulgaris*), Hare's tail Cotton-grass (*Eriophorum vaginatum*) and Bog Asphodel (*Narthecium ossifragum*), with White-beaked sedge (*Rhynchospora alba*) and the lichen *Cladonia portentosa*, with the bog mosses *Sphagnum papillosum*, *Sphagnum subnitens* and *Sphagnum capillifolium*. There is a flush and soak system on the north-west margin of the high bog, which supports Downy Birch and Willow woodland with an understorey of Heather, Purple Moor-grass (*Molinia caerulea*), Bilberry (*Vaccinium myrtillus*), Bog Myrtle (*Myrica gale*) and Bracken (*Pteridium aquilinum*). Bog mosses are regenerating and include *Sphagnum papillosum, Sphagnum capillifolium* and *Sphagnum palustre*, with *Sphagnum recurvum* in drains with a combined cover of approximately 50%. Much of the restored areas have not yet developed vegetation characteristic of the wettest conditions and there is a considerable amount of conifer and birch regeneration occurring in these areas.	This site occurs within the larger raised bog system that is designated as Wooddown Bog NHA (000694). It is situated 5.0 km north-east of Mullingar in the townland of Wooddown, County Westmeath. The site is part of a raised bog that includes both areas of high bog and cutover bog. The site is bordered by open high bog on its northern and western margins, by forestry on cutover bog on its eastern margin and by agricultural grassland on its southern side. This site has a small area of open high bog but most of the area was covered by coniferous forestry, which has been clear-felled. The bog is intensively drained due to forestry. A deep drain bisects the dome surface, running from north-east to south-west, from the planted area to the middle of the adjacent unplanted dome. There is a small soak located on the cutover at the north-west margin of the high bog. Current land use on the site consists of conservation management with the removal of conifer plantations and the blocking of drainage associated with these plantations, both on the high bog and on the cutover. Active peat-cutting and drainage is occurring outside the south-western boundary and to the north-east of the site and there is a major drain running through the centre of the adjacent high bog. There is also some dumping around the site. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site and pose a continuing threat to its viability.
004044	Lough Ennell SPA	This site is of ornithological significance for wintering waterfowl, with three migratory species having populations of national importance: Pochard, Tufted Duck and Coot. The occurrence of Golden Plover in the vicinity of the lake is of note as this species is listed on Annex I of the E.U. Birds Directive. The population of Tufted Duck represents over 3% of the all-Ireland population. The site is also utilised by an internationally important population of non-migratory Mute Swan. Other species which occur include Golden Plover, Lapwing, Mallard, Little Grebe, Great Crested Grebe and Goldeneye. This site is one of the most important Midland lakes for wintering waterfowl. This site is also a Ramsar Convention Site.	Lough Ennell is a large, limestone lake located south of Mullingar in County Westmeath. It has a length of approximately 6.5 km along its long axis and is mostly approximately 2 km wide. The River Brosna is the principal inflowing and outflowing river. It is a relatively shallow lake, with a maximum depth of approximately 30 m. The water is hard, with low colour and markedly alkaline pH. The lake is classified as a mesotrophic system though it has been eutrophic in the past. Lough Ennell is an important local amenity area, providing fishing, boating and camping facilities.

Site Code	Site Name	Quality of Site	Other Site Characteristics
000685	Lough Ennell SAC	This site is of significance as a midlands marl lake which supports a rich variety of lower plant and invertebrate species. The lakeshore habitats, which include alkaline fen, a habitat listed on Annex I of the E.U. Habitats Directive, support a diverse flora. These habitats also provide important refuges for wildfowl such as the Greenland White-fronted Goose, Cormorant, Mute Swan, Pochard, Tufted Duck and Coot. This site supports a specialist and diverse aquatic flora, dominated by stoneworts. A total of 13 stonewort species has been recorded, including two Red Data Book species, Chara denudata and C. tomentosa. Distinct zones of other marl lake specialist stoneworts occur in Lough Ennell, including *C. curta*, *C. rudis*, *C. contraria*, *C. virgata* and *C. denudata*. A characteristic and highly-sensitive cyanobacterial (blue-green algal) crust (or krustenstein) occurs in shallow waters. Phytoplankton biomass and, hence, turbidity have declined with a corresponding increase in water transparency. As a result, the depth-distribution and abundance of stoneworts has increased and the characteristic stonewort zonation has recovered. Much of the lakeshore consists of dry, stony ground colonised by calcareous grassland. These areas were formerly part of the lakebed but are now exposed as a consequence of drainage. Alkaline fen is also found on the lake shore, with species such as Grass-of-parnassus (*Parnassia palustris*), Marsh Pennywort (*Hydrocotyle vulgaris*) and Bottle Sedge (*Carex rostrata*). Reedbeds and species-poor swamp vegetation fringe the lake in places, particularly around the points of inflow and outflow, and on the eastern shore around Tudenham Park. Common Reed (*Phragmites australis*) is abundant here. Yellow Archangel (*Lamiastrum galeobdolon*), a rare plant listed in the Red Data Book, has been recorded in the woods along the eastern shores of Lough Ennell.	Lough Ennell is a large, limestone lake located south of Mullingar in County Westmeath. It has a length of approximately 6.5 km along its long axis and is mostly approximately 2 km wide. The River Brosna is the principal inflowing and outflowing river. It is a relatively shallow lake, with a maximum depth of approximately 30 m. The water is hard, with low colour and markedly alkaline pH. The lake is classified as a mesotrophic system though it has been eutrophic in the past. Lough Ennell is an important local amenity area, providing fishing, boating and camping facilities. Lough Ennell was severely impacted by eutrophication in the 1970s and 1980s owing mainly to the discharge of inadequately treated sewage effluent from Mullingar. This resulted in significant biological changes in the lake including a rapid decline in the cover abundance, density and depth distribution of stoneworts, increases in phytoplankton and filamentous algal biomass, decreased mayfly emergence and the collapse of the Brown Trout fishery.
000205	Malahide Estuary SAC	The estuarine site is important ornithologically, with a population of Brent Goose of international significance wintering at the site. This site also holds nationally important populations of 15 species: Brent Goose, Great Crested Grebe, Mute Swan, Shelduck, Pochard, Goldeneye, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Redshank, Wigeon, Teal, Ringed Plover, Knot, Dunlin, Greenshank, Pintail, Black-tailed Godwit, and Bar-tailed Godwit. The estuary also attracts migrant species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. Breeding birds of the site include Ringed Plover, Shelduck and Mallard.	This site is situated immediately north of Malahide and east of Swords in County Dublin. It is the estuary of the River Broadmeadow. The site is divided by a railway viaduct. The outer part of the estuary is mostly cut off from the sea by a large sand spit. The outer estuary drains almost completely at low tide, exposing sand and mud flats. The site includes a fine area of rocky shore south-east of Malahide and extending towards Portmarnock. This represents the only continuous section through the fossiliferous Lower Carboniferous rocks in the Dublin Basin and is the type locality for several species of fossil coral. The inner part of the estuary is heavily used for water sports. A section of the outer estuary has recently been infilled for a marina and housing development. Much of the interior of the spit has been developed as a golf course.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The dune spit has a well-developed outer dune ridge dominated by Marram Grass (*Ammophila arenaria*). The dry areas of the stabilised dunes have a dense covering of Burnet Rose (*Rosa pimpinellifolia*), Red Fescue (*Festuca rubra*) and species such as Yellow-wort (*Blackstonia perfoliata*), Autumn Gentian (*Gentianella amarella*), Hound's-tongue (*Cynoglossum officinale*), Carline Thistle (*Carlina vulgaris*) and Pyramidal Orchid (*Anacamptis pyramidalis*). Well-developed saltmarshes occur at the tip of the spit. Atlantic salt meadow is the principal type and is characterised by species such as Sea-purslane (*Halimoine portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*).	
004016	Baldoyle Bay SPA	This site is of high conservation importance, supporting internationally important numbers of Light-bellied Brent Goose as well as nationally important populations of a further five species: Shelduck, Ringed Plover, Golden Plover, Grey Plover and Bar-tailed Godwit. Golden Plover and Bar-tailed Godwit are both species listed in Annex I of the E.U. Birds Directive. Regular breeding birds include Shelduck, Mallard and Ringed Plover. In autumn, passage migrants such as Curlew Sandpiper, Spotted Redshank and Green Sandpiper are regular in small numbers. The inner part of the site is a Statutory Nature Reserve and is designated as a wetland of international importance under the Ramsar Convention. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Ulva spp*.). The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats.	This site, located to the north and east of Baldoyle and to the south of Portmarnock in County Dublin, is a relatively small, narrow estuary separated from the open sea by a large sand dune system. Two small rivers, the Mayne River and the Sluice River, flow into the inner part of the estuary. Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary.
004026	Dundalk Bay SPA	This site is one of the most important wintering waterfowl sites in the country and one of the few that regularly supports more than 20,000 waterbirds. Four species occur in numbers of international importance (Light-bellied Brent Goose, Knot, Black-tailed Godwit, and Bar-tailed Godwit) and a further 19 species in numbers of national importance (Great Crested Grebe, Greylag Goose, Shelduck, Teal, Mallard, Pintail, Common Scoter, Red-breasted Merganser, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Dunlin, Curlew and Redshank, Black-headed Gull, Common Gull, and Herring Gull).	This site is a large open shallow sea bay with extensive saltmarshes and intertidal sand/mudflats, extending some 16 km from Castletown River on the Cooley Peninsula, in the north, to Annagassan/Salterstown in the south.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The regular occurrence of Golden Plover, Bar-tailed Godwit, Red-throated Diver, Great Northern Diver and Little Egret is of note as these species are listed on Annex I of the E.U. Birds Directive. This site is a Ramsar Convention site and parts of Dundalk Bay SPA are designated as Wildfowl Sanctuaries. The extensive sand flats and mud flats have a rich fauna of bivalves, molluscs, marine worms and crustaceans which provides the food resource for most of the wintering waterfowl. The outer part of the bay provides excellent shallow-water habitat for divers, grebes and sea duck.	
002341	Ardagullion Bog SAC	This site is of considerable conservation significance as it comprises a raised bog. The site supports a diverse range of raised bog microhabitats, including hummocks and pools. Much of the high bog has vegetation typical of a Midland Raised Bog, consisting of Heather (*Calluna vulgaris*), Cranberry (*Vaccinium oxycoccos*), Hare's-tail Cottongrass (*Eriophorum vaginatum*), White Beak-sedge, Bog Asphodel and Bog-rosemary (*Andromeda polifolia*). The bog mosses *Sphagnum papillosum, S. capillifolium* and *S. magellanicum* are common on the high bog, and *S. imbricatum* is found at the centre of the site. Many hummocks have good clusters of the lichens *Cladonia portentosa* and *C. uncialis*. On the south-west margins of the high bog there are some young Lodgepole Pine (*Pinus contorta*), but none are thriving.	Ardaguillion Bog is located 5 km north-east of Edgeworthstown, primarily in the townlands of Cloonshannagh (Coolamber Manor Demesne) and Ardaguillon in County Longford. The site comprises a raised bog that includes both areas of high bog and cutover bog. The site is bounded in the north-east by the local road running to Coolagherty. This site is the remnant of a much larger bog that is now cutover and afforested. There are areas of hummocks and pools in the centre of the high bog and the ground is wet and quaking. There is one flush in the centre of the high bog. There is a small area of coniferous forestry on a section of high bog and cutover in the south-west of the site. Cutover bog is found all around this site. Current land uses on the site include forestry, peat-cutting and agriculture. The forestry is found on a small section of high bog and adjoining cutover in the south-west of the site. Areas of cutover in the south and west of the site that were previously forested have been clear-felled. Two fields in the north of the site have been reclaimed for agriculture. Damaging activities associated with these land uses include drainage throughout the site and burning of the high bog. There is also evidence of old burning in the northern part of the high bog. All these activities have resulted in the loss of habitat and damage to the hydrological status of the site and pose a continuing threat to its viability.
004015	Rogerstown Estuary SPA	This site is an important link in the chain of estuaries on the east coast. It supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further 10 species: Greylag Goose, Shelduck, Shoveler, Oystercatcher, Ringed Plover, Grey Plover, Knot, Dunlin, Black-tailed Godwit and Redshank. The presence of Little Egret and Golden Plover is of note as these species are listed on Annex I of the E.U. Birds Directive. Rogerstown Estuary is also a Ramsar Convention site, and part of Rogerstown Estuary SPA is designated as a Statutory Nature Reserve and a Wildfowl Sanctuary.	This site is situated about 2 km north of Donabate in north County Dublin. It is a relatively small, funnel shaped estuary separated from the sea by a sand and shingle peninsula; the site extends eastwards to include an area of shallow marine water. The estuary receives the waters of the Ballyboghil and Ballough rivers and has a wide salinity range, from near full seawater to near full freshwater. The intertidal flats of the estuary are mainly of sands, with soft muds in the north-west sector and along the southern shore. The area of intertidal flats in the inner estuary is reduced as a result of the local authority refuse tip on the north shore.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		Large numbers of gulls including Herring Gull, Great Black-backed Gull and Black-headed Gull are attracted to the area, partly due to the presence of an adjacent local authority landfill site. This site is also a regular staging post for scarce migrants, particularly in autumn when Green Sandpiper, Ruff, Little Stint, Curlew Sandpiper and Spotted Redshank may be seen. Shelduck breed within the site. At low tide extensive intertidal sand and mud flats are exposed and these provide the main food resource for the wintering waterfowl that use the site. The intertidal flats of the estuary are mainly of sands, with soft muds in the north-west sector and along the southern shore. Associated with these muds are stands of Common Cord-grass (*Spartina anglica*). The intertidal vascular plant Beaked Tasselweed (*Ruppia maritima*) grows profusely in places beneath the algal mats and is grazed by herbivorous waterfowl.	The sediments are mostly muds, which are very soft in places. Common Cordgrass is widespread in parts, and in summer, dense green algal mats grow on the muds. In the extreme inner part, the estuary narrows to a tidal river.
000208	Rogerstown Estuary SAC	This site is an important link in the chain of estuaries on the east coast. It supports an internationally important population of Light-bellied Brent Goose and nationally important populations of a further 10 species: Greylag Goose, Shelduck, Shoveler, Oystercatcher, Ringed Plover, Grey Plover, Knot, Dunlin, Black-tailed Godwit and Redshank. The presence of Little Egret and Golden Plover is of note as these species are listed on Annex I of the E.U. Birds Directive. This site also hosts three rare plant species (Hairy Violet (*Viola hirta*) and Meadow Barley (*Hordeum secalinum*), and Green-winged Orchid (*Orchis morio*)). At low tide extensive intertidal sand and mud flats are exposed and these provide the main food resource for the wintering waterfowl that use the site. The intertidal flats of the estuary are mainly of sands, with soft muds in the north-west sector and along the southern shore. Associated with these muds are stands of Common Cord-grass (*Spartina anglica*). The intertidal vascular plant Beaked Tasselweed (*Ruppia maritima*) grows profusely in places beneath the algal mats and is grazed by herbivorous waterfowl.	This site is situated about 2 km north of Donabate in north County Dublin. It is a relatively small, funnel shaped estuary separated from the sea by a sand and shingle peninsula; the site extends eastwards to include an area of shallow marine water. The estuary receives the waters of the Ballyboghil and Ballough rivers and has a wide salinity range, from near full seawater to near full freshwater. The area of intertidal flats in the inner estuary is reduced as a result of the local authority refuse tip on the north shore. The sediments are mostly muds, which are very soft in places. Common Cordgrass is widespread in parts, and in summer, dense green algal mats grow on the muds. In the extreme inner part, the estuary narrows to a tidal river.
000679	Garriskil Bog SAC	This site is of considerable conservation significance comprising two subsites, Garriskil Bog and Derrya Bog which contain raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. It contains good examples, covering significant areas, of the E.U. Habitats Directive Annex I habitats Active Raised Bog, Degraded Raised Bog, and Depressions on peat substrates (Rhynchosporion).	This site consists of two areas of raised bog: Garriskil Bog, which covers 324.81 ha and lies 3 km east of Rathowen in County Westmeath; and a small outlier, within the townland of Derrya, which covers 22.9 ha and lies 2.2 km to the east on the northern shore of Lough Derravaragh. Both bogs are remnants of the large river floodplain bogs which developed where the River Inny enters and leaves Lough Derravarragh.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The site supports a large area of high quality raised bog microhabitats, which is unusual for a site in the east Midlands, including some very well-developed hummock/hollow complexes. Past drainage of the site, associated with arterial drainage of the Inny and Riffey rivers and peat cutting, has unfavourably impacted on the site and led to widespread subsidence and drying out. There is some scattered Birch, Sitka Spruce and Lodgepole Pine regenerating at this site.	Garriskil Bog is bounded to the south-east and south-west by the rivers Inny and Riffey and by the Dublin-Sligo railway line to the north. It is considered an exceptional example of a midland raised bog and includes 170.26 ha of uncut raised bog and 154.55 ha of surrounding areas which includes 109 ha of cutover bog.
004102	Garriskil Bog SPA	This site is within the breeding territory of a pair of Merlin. Nesting likely occurs outside of the site boundary, with the bog being used primarily as a foraging area. Several wader species breed within the site: Snipe, Curlew and Redshank. Barn Owl has been recorded hunting along the margins of the bog, while Red Grouse is considered to occur occasionally.	This site is located 3 km west of Lough Derravaragh and 3 km east of Rathowen in Co. Westmeath. It is bounded to the south-east and south-west by the rivers Inny and Riffey. The bog is underlain by calcareous shales with a low permeability. A substantial area of uncut high bog remains though much of this is classified as degraded raised bog.
001209	Glenasmole Valley SAC	The site has important examples of petrifying springs. The physical and chemical properties of the springs have been studied. Good examples of orchid rich calcareous grassland including Pseudorchis albida (legally protected) and Orchis morio (Red Data Book species)are found. The quality of grassland is variable owing to agricultural improvement. Molinia meadows are also represented. Several other Red Data Book plant species occur along with a host of rare or scarce plant species for Co. Dublin. The botany of this site has been well studied since the 19th century. The site has Alcedo atthis and is important for bats with four Red Data Book species present (Pipistrellus pipistrellus Nyctalus leisleri Myotis daubentoni Plecotus auritus).	Glenasmole Valley lies at the northern foothills of the Dublin and Wicklow Mountains. It is a glaciated valley with drift deposits consisting of fluvioglacial sands and gravels of varying thickness and rich in Carboniferous limestone occurring on the slopes. Spring lines occur along both sides of the northern part of the valley. The River Dodder flows through the valley and within the site the river has been impounded to form two reservoirs. Associated with the reservoirs are areas of swamp and marsh vegetation. The valley is heavily wooded mostly with mixed woodland of both deciduous and coniferous species but also some native woodland. Dry calcareous pasture grassland improved to varying degrees is a main habitat of the valley sides and occurs in association with wet grassland and in places of seepage fen or marsh type vegetation.
004006	North Bull Island SPA	The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of Branta bernicila hrota and Limosa lapponica and is the top site in the country for both of these species. A further 14 species have populations of national importance with particular notable numbers of Tadorna tadorna (8.5% of national total) Anas acuta (11.6% of national total) Pluvialis squatarola (6.9% of national total) Calidris canutus (10.5% of national total). North Bull Island SPA is a regular site for passage waders such as Philomachus pugnax Calidris ferruginea and Tringa erythropus. The site supports Asio flammeus in winter. Formerly the site had an important colony of Sterna albifrons but breeding has not occurred in recent years.	The North Bull Island sand spit is a relatively recent depositional feature formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-developed dune system runs the length of the island with good examples of embryonic shifting marram and fixed dunes as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The site provides both feeding and roosting areas for the waterfowl species. Habitat quality for most of the estuarine habitats is very good. The site has a population of the rare Petalophyllum ralfsii which is the only known station away from the western seaboard as well as five Red Data Book vascular plant species and four bryophyte species. It is nationally important for three insect species. Wintering bird populations have been monitored more or less continuously since the late 1960s and the other scientific interests of the site have also been well documented. Future prospects are good owing to various designations assigned to site.	important for educational and research purposes. Nature conservation is a main land use within the site.
004024	South Dublin Bay and River Tolka Estuary SPA	The site possesses extensive intertidal flats which support wintering waterfowl which are part of the overall Dublin Bay population. It regularly has an internationally important population of Branta bernicla hrota which feeds on Zostera noltii in the autumn. It has nationally important numbers of a further 6 species: Haematopus ostralegus Charadrius hiaticula Calidris canutus Calidris alba Calidris alpina and Limosa lapponica. It is an important site for wintering gulls, especially Larus ridibundus and Larus canus. South Dublin Bay is the premier site in Ireland for Larus melanocephalus with up to 20 birds present at times. Is a regular autumn roosting ground for significant numbers of terns including Sterna dougallii S. hirundo and S. paradisaea.	This site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay as well as much of the Tolka Estuary to the north of the River Liffey. A portion of the shallow bay waters is also included. In the south bay the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. The sands support the largest stand of Zostera noltii on the East Coast. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed well aerated sands off the Bull Wall. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.
000455	Dundalk Bay SAC	Estuaries and particularly intertidal sand and mud flats are very well represented at this site and support the largest concentration of wintering waterfowl on the east coast (regularly in excess of 20000 wintering waterfowl). The bay has internationally important populations of Branta bernicila hrota Calidris canutus Limosa limosa and Limosa lapponica. It is the top site in the country for Calidris canutus with over 38% of the national total. A further 13 species have populations of national importance with particular notable numbers for Haematopus ostralegus (12.4% of national total) Calidris alpina (8.4% of national total) and Vanellus vanellus (7.4% of national total). Dundalk Bay is an important roost site for Anser anser and small numbers of Anser albifrons flavirostris. Shallow bay waters support divers grebes and diving duck with nationally important populations of Podiceps cristatus and Mergus serrator.	The site is a large bay-like estuarine complex extending c.15 km from north to south and on average of 4-5 km in width. It contains the estuaries of a number of moderately sized rivers principally the Castletown the Flurry the Fane and the Glyde/Dee. These rivers drain fairly intensive agricultural catchments and the Castletown flows through Dundalk town and serves the port. The site contains the largest expanse of intertidal flats on the east coast and has a very marked tidal range. The sediments are predominantly sands though fine muds or muddy sands occur in the sheltered areas at Dundalk and Ballymascanlan. Salt marshes are well represented especially in the more sheltered areas such as the estuaries of the Castletown and Flurry rivers. Spartina is frequent in parts. Postglacial raised beaches are a feature of the shoreline.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		This bay is a regular site for passage waders such as Philomachus pugnax Calidris ferruginea and Tringa erythropus. It is also an important site for wintering gulls especially Larus ridibundus and Larus canus. The site provides both feeding and roosting areas for the waterfowl species and habitat quality for most of the estuarine habitats is very good. Wintering bird populations have been well monitored in recent years.	
000210	South Dublin Bay SAC	The site possesses a fine and fairly extensive example of intertidal flats. The sediment type is predominantly sand with muddy sands in the more sheltered areas. A typical macro-invertebrate fauna exists. Has the largest stand of Zostera on the east coast. Supports part of the important wintering waterfowl populations of Dublin Bay. Regularly has an internationally population of Branta bernicila horta plus nationally important numbers of at least a further 6 species including Limosa lapponica. Regular autumn roosting ground for significant numbers of Sterna terns including S. dougallii. The scientific interests of the site have been well documented.	This intertidal site extends from the South Wall at Dublin Port to the West Pier at Dun Laoghaire, a distance of c. 5 km. At their widest the intertidal flats extend for almost 3 km. The seaward boundary is marked by the low tide mark while the landward boundary is now almost entirely artificially embanked. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates while some bedrock shore occurs near Dun Laoghaire. A number of small streams and drains flow into the site. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.
000206	North Dublin Bay SAC	The site possesses an excellent diversity of coastal habitats. The North Bull Island dune system is one of the most important systems on the east coast and is one of the few in Ireland that is actively accreting. It possesses extensive and mostly good quality examples of embryonic shifting marram and fixed dunes as well as excellent examples of humid dune slacks. Both Atlantic and Mediterranean salt marshes are well represented, and a particularly good marsh zonation is shown. The salt marshes grade into mudflats and sandflats some of which are dominated by annual Salicornia species. Petalophyllum ralfsii occurs at its only known station away from the western seaboard. The site has five Red Data Book vascular plant species and four Red Data Book bryophyte species. This is one of the most important sites for wintering waterfowl in Ireland with internationally important populations of Branta bernicla horta Calidris canutus and Limosa lapponica plus nationally important numbers of a further 14 species. 20% of the national total of Pluvialis squatarola occurs here. Formerly it had an important colony of Sterna albifrons. North Dublin Bay is nationally important for three insect species.	The North Bull Island sand spit is a relatively recent depositional feature formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. Between the island and the mainland there are two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the site as it has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main land use within the site.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		The scientific interests of the site have been well documented and future prospects are good owing to the various designations assigned to the site.	
002331	Mouds Bog SAC	Mouds Bog is the largest relatively intact raised bog in Co. Kildare and thus is the most easterly site remaining in the country. Although there is extensive industrial peat extraction in the west of the site there is still a fairly large area of wet bog surface present including some active raised bog with a small soak system. The degraded bog is typical of the habitat but displays some diversity by way of a number of dry flushes. Rhynchosporion vegetation is well represented in the wetter areas and includes Drosera anglica a relatively scarce species in Co. Kildare. The site contains one of the few Irish populations of the introduced insectivorous plant species Sarracenia purpurea. Lagopus lagopus a Red listed species in Ireland has been recorded.	Mouds Bog is a large raised bog complex located 3 km north-west of Newbridge Co. Kildare. The bog occurs as two basins separated by a central mineral ridge. Approximately half the site comprises uncut high bog though this is predominantly degraded bog. Much of the western end of the site is affected by industrial extraction of peat. Old cutover surrounds the remainder of the high bog though some of this has been reclaimed for pasture grassland. Part of the cutover has been invaded by Betula pubescens scrub.
000202	Howth Head SAC	The climate and landforms of Howth combined with proximity to Dublin have resulted in a site of great scientific and educational interest. The flora is very diverse with several Red data book species and species of very restricted Irish distribution. The dry heath and sea cliff vegetation is extensive and well developed. A wide variety of seabirds nest on the marine cliffs. Many important scientific studies of the area have been published.	Howth is a peninsula of Cambrian quartzite and slate linked to the mainland by a raised beach. Most of the coast is sheer with many 30m or higher cliffs. Its climate is dry and warm by Irish standards, and this is reflected in its flora and fauna. The proposed SAC occupies the eastern portion and summit of Howth. Much of the remaining area is urbanized or used for amenity. The greater part of the site consists of heathland and cliff.
004040	Wicklow Mountains SPA	The site supports good examples of both upland and woodland bird communities. It has breeding Falco columbarius and Falco peregrinus as well as Turdus torquatus and Lagopus lagopus both of the latter being Red-listed in Ireland. It is the only site in Ireland where Mergus merganser breeds regularly. It is important for rare breeding passerines of oakwoods notably Phoenicurus phoenicurus and Phylloscopus sibilatrix. It also has Sylvia borin and Sylvia atricapilla.	This is an extensive upland site comprising a substantial part of the Wicklow Mountains. The underlying geology of the site is mainly of Leinster granites flanked by Ordovician schists mudstones and volcanics. The area was subject to glaciation and features fine examples of glacial lakes, deep valleys and moraines. Most of the site is over 300 m with much ground over 600 m and the highest peak of Lugnaquillia at 925 m. The substrate over much of site is peat with poor mineral soil occurring on the slopes and lower ground. Exposed rock and scree are features of the site. The dominant habitats present are blanket bog heaths and upland grassland. Fine examples of native Oak woodlands are found in the Glendalough area. The site which is within the Wicklow Mountains National Park is fragmented into about 20 separate parcels of land.
002122	Wicklow Mountains SAC	The site comprises the largest complex of upland habitats in eastern Ireland with important examples of blanket bog wet heath and dry heath extensive in area and mostly of good quality. Alpine heath occurs at high levels along with calcareous and siliceous rocky habitats harbouring an arctic-alpine flora.	An extensive upland site comprising much of the Wicklow Mountains and extending into Co. Dublin. The solid geology is mainly Leinster granites flanked by Ordovician schists mudstones and volcanics. The area has been glaciated and features fine examples of high corrie lakes deep valleys and moraines.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		A fine series of oligotrophic lakes occur, and some have Salvelinus alpinus. Several oakwoods of moderate quality typical of the dry acidic woods of eastern Ireland are found. Seven Red Data Book plant species occur including the rare Alchemilla alpina and Nitella gracilis at its only Irish station. The site supports significant populations of breeding Falco columbarius and Falco peregrinus. The site is important for rare breeding passerines of oakwoods notably Phoenicurus phoenicurus and Phylloscopus sibilatrix. The site also has breeding Turdus torquatus and Lagopus lagopus. Lutra lutra occurs on several of the riverine systems.	Most of the site is over 300m with much ground over 600m and the highest peak of Lugnaquillia at 925m. The site includes the headwaters of several major rivers including the Liffey the Dargle and the Slaney. The substrate over much of the site is peat with poor mineral soil on the slopes and lower ground. Exposed rock and scree is a feature. The dominant habitats on the site are blanket bog heaths and upland grassland.
000397	Red Bog, Kildare SAC	The site displays a succession from open water (eutrophic in status) to ombrotrophic bog. Transition mire vegetation is considered to be well represented at this site with some typical species. A small colony of Larus ridibundus has bred in the past (current status unknown) which is one of few nesting sites in eastern Ireland and the site also has breeding Aythya fuligula and Fulica atra.	The site comprises a relatively small wetland which lies between moranic ridges. Open water is a principal habitat though there are no obvious inflowing or outflowing streams. Open water is fringed by various wetland habitats with bog (raised type) fens and freshwater marsh. Some willow (Salix spp.) occurs. The surrounding land is improved grassland. An extensive quarrying operation occurs to the east and south of site.
000688	Lough Owel SAC	This lake comprises an excellent example of a hard water lake. Charophyte vegetation is well developed and includes some rare species of calcareous waters. The site holds a good population of Austropotamobius pallipes and good examples of transition mires and also some alkaline fen. A number of Red Data plant species and important invertebrate species occur at the site. The site is also an important bird site. Although affected by eutrophication in the late 1970s the lake has recovered and the quality of the water has apparently since been stable.	Lough Owel is a large calcareous lake in the Shannon Catchment. It is fed by small streams and springs and is mostly shallow though has a maximum depth 22m. The water is moderately hard alkaline and virtually colourless. The lake is relatively unproductive with low chlorophyll concentrations. Up to 60% of the lake bed is covered by charophyte-dominated vegetation. The shores of the lake are mostly exposed and stony. At the north-west and south-west ends of the lake complexes of wetland vegetation occur including areas of fen transition mires reedswamp wet woodland and wet grassland. The site is surrounded by fairly intensive farmland and some afforestation.
004047	Lough Owel SPA	Lough Owel is one of the most important Midland lakes for wintering waterfowl with nationally important populations of Anas clypeata and Fulica atra. The populations of both of these species represent a significant proportion - 4.7% and 6.5% of the respective all-Ireland totals. It is also of importance for diving duck including Aythya ferina and Bucephala clangula. At times the lake is utilised by the internationally important Midland lakes flock of Anser albifrons flavirostris. The site is an important trout fishery.	Lough Owel is a medium- to large-sized lake measuring approximately 6 km along its long axis and with a maximum width of 3 km. It is fed by a number of small streams and the main outflow is to the Royal Canal. Water is relatively shallow with a maximum depth of 22 m. Overlying Carboniferous limestone Lough Owel is one of the most important examples of a limestone lake in the Midlands. The water is moderately hard alkaline and virtually colourless. The lake appears to be relatively unproductive with low levels of orthophosphate and moderate chlorophyll concentrations. The lake is classified as a mesotrophic and its status has been stable in recent years. Aquatic vegetation includes a number of stoneworts (Chara spp.). The rocky nature of the shoreline has given rise to marginal vegetation which is patchy and sparse.

Site Code	Site Name	Quality of Site	Other Site Characteristics
			Apart from some reedswamp of Phragmites australis and Scirpus lacustris shoreline vegetation is dominated by occasional patches of Alnus glutinosa. Several small islands occur in the southern sector.
004113	Howth Head Coast SPA	Howth Head has important colonies of breeding seabirds with nationally important populations of Rissa tridactyla Alca torda and Cepphus grylle and a regionally important population of Uria aalge The colony has been monitored at intervals since the Operation Seafarer project in 1969/70 and most populations have increased since then. The cliffs also support a breeding pair of Falco peregrinus, a species listed on Annex I of the E.U. Birds Directive. The site is easily accessible and has important amenity and educational value due to its proximity to Dublin City.	Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian rock of the Bray Group, the most conspicuous component being quartzite. The site comprises approximately 3 km of sea cliff which vary between about 60 m and 90 m in height. A typical maritime cliff flora occurs. Where the gradient allows shallow glacial drift supports a typical maritime flora and there is a fringe of coastal heath on the cliff tops. The marine area to a distance of 500 m from the cliff base where seabirds bathe socialises, and feed is included within the site.
004063	Poulaphouca Reservoir SPA	The site is of national importance for its population of Anser anser which is one of the largest in the country. The site provides the main roost for the birds with feeding mostly on improved grassland outside of the site. A range of other waterfowl species occur in relatively low numbers including Cygnus cygnus Anas penelope and Bucephala clangula. The reservoir attracts roosting gulls during winter most notably a large population of Larus fuscus which in Ireland is rare in winter away from the south coast.	Poulaphouca Reservoir located in the western foothills of the Wicklow Mountains was created in 1944 by damming of the River Liffey for the purpose of generating electricity from hydropower. The reservoir covers an area of approximately 20 square kilometres and is the largest inland water body in the mid-east and south-east regions. The reservoir receives water from two main sources the River Liffey at the northern end and the Kings River at the southern end. The exit is into the Liffey gorge at the western end. Underlying the reservoir are sands and gravels deposited during the last glaciation. The shores of the lake are mostly sandy. When water levels are low exposed lake muds are colonised by an ephemeral flora of annual plant species.
004046	Lough Iron SPA		
002313	Ballymore Fen SAC	The site supports a good example of transition mire vegetation that occurs in association with alkaline fen and incipient raised bog. It has many of the expected plant species for the habitat including the locally rare Carex limosa and an excellent diversity of bryophytes. The site supports the Red Data Book species Pyrola rotundifolia and has the legally protected amphibian species Rana temporaria and Triturus vulgaris as well as a diverse invertebrate fauna with at least five Odonta species. Quality of habitats is good and the site is in a fairly natural state.	Ballymore Fen occupies a relatively wide and deep depression in drift deposits that are underlain by Carboniferous Limestone. The site is fed on both the east and west by springs and there are small streams flowing from the north-east and south of the site. The area may at one stage have been a lake of some size but at present is occupied by a transition mire complex with the characteristic lagg fen at the edges. In the wetter areas towards the centre and south of the site the vegetation is characterised by a scraw. A mosaic of fen and incipient bog vegetation occurs elsewhere with transition mire vegetation present as part of this. Scrub dominated by Salix spp. is invading the drier areas. The site includes fields of semi-improved grassland which surround the wetland - much of this is species-rich calcareous grassland that is lightly grazed by cattle.

Site Code	Site Name	Quality of Site	Other Site Characteristics
002306	Carlingford Shore SAC	The site has very good examples of annual driftline vegetation and perennial vegetation of stony banks and shingle. These habitats extend as a strip of varying width for up to 6 km from Cooley Point to Greenore and are mostly of good quality. The Red Data Book and legally protected Mertensia maritima occurs here at the southern limit of its known Irish distribution. The shoreline habitats support wintering waterfowl in moderate numbers.	The site comprises the entire southern shoreline of Carlingford Lough and continues to the southern part of the Carlingford peninsula. While the principal conservation interests lie in the shingle and sandy shoreline habitats the site also has intertidal sand and mud flats patches of salt marsh some areas of dry grassland and an area of mixed deciduous woodland. Tourism is an important activity in the area.
004078	Carlingford Lough SPA	The site supports part of a nationally important population of wintering Phalacrocorax carbo. A range of other waterfowl species occur notably Branta bernicla hrota and Limosa lapponica though all in relatively low numbers. The intertidal habitat within the site provides feeding for the wintering birds but there are no high tide roosts within the site.	The site comprises part of the southern sector of Carlingford Lough extending from Greenore Point to the harbour at Carlingford. It includes all of the intertidal sand and mud flats to the low tide mark. Much of the shoreline is already artificially embanked.
000453	Carlingford Mountain SAC	An extensive area of upland heath and acid grassland with exposed rocks and scree noted for the occurrence of some alpine plants including the nationally rare Cryptogramma crispa.	An upland site composed of siluirian slates dolemite basic gabbro with granite at the summit of Carlingford Mountain the highest point in the range (590m). Mostly covered in heath and acid grassland vegetation with some blanket bog and marsh the site is rugged in parts with exposed rock and some scree
004045	Glen Lough SPA	The main importance of this site is that it is used (along with Lough Iron and other sites) at times by an internationally important population of Cygnus cygnus. At times the site is utilised by the internationally important midland lakes population of Anser albifrons flavirostris although usage of the site is not regular. It has a range of other waterfowl species mainly dabbling duck but in relatively low numbers. The Anas clypeata populations at times exceeds the qualifying threshold for national importance.	Glen Lough had practically no surface water owing to extensive drainage in the 1960s which resulted in a dramatic drop in the water table. However the area does flood in the winter months. Since 2005 there has been active management of the site to retain water including the construction of embankments. Sedge-dominated freshwater marsh now occupies the majority of the site with species such as Carex rostrata and Phalaris arundinacea present. Other habitats present include reedswamp wet and dry grassland cutaway bog colonised by heath vegetation scrub and wet willow woodland.
004064	Lough Ree SPA	Lough Ree is one of the most important Midland sites for wintering waterfowl with nationally important populations of Anas penelope Anas crecca Anas acuta Anas clypeata Aythya fuligula and Bucephala clangula. Nationally important populations of Pluvialis apricaria and Vanellus vanellus are also associated with the lake. Regionally important numbers of Cygnus cygnus and Anser albifrons flavirostris are also found in the vicinity of the lake. The site supports a nationally important population of Sterna hirundo. Larus ridibundus breeds (nationally important) and Larus fuscus and Larus canus have bred in the past (recent census information is poor).	Situated on the River Shannon between Lanesborough and Athlone Lough Ree is the third largest lake in the Republic of Ireland. It lies in an ice-deepened depression in Carboniferous Limestone. Some of its features (including the islands) are based on glacial drift. The main inflowing rivers are the Shannon Inny and Hind and the main outflowing river is the Shannon. The greater part of Lough Ree is less than 10 m in depth but there are six deep troughs running from north to south reaching a maximum depth of about 36 m just west of Inchmore. The lake has a very long indented shoreline and hence has many sheltered bays. It also has a good scattering of islands most of which are included in the site.

Site Code	Site Name	Quality of Site	Other Site Characteristics
		Lough Ree is an important site for breeding duck and grebes with Aythya fuligula and Podiceps cristatus having populations of national importance. Of particular note is that it is one of the two main sites in the country for breeding Melanitta nigra a Red Data Book species. The woodland around the lake is a stronghold for Sylvia borin and this scarce species probably occurs on some of the islands within the SPA. Lutra lutra is frequent within the site and the fish Coregonus autumnalis pollan occurs.	The lake is classified as a mesotrophic system. The water of Lough Ree tends to be strongly peat-stained restricting macrophytes to depths of less than 2 m. Swamp vegetation especially of Phragmites australis occurs in the sheltered areas around the lake. The swamp often grades to species-rich calcareous fen or freshwater marsh. Lowland wet grassland some of which floods in winter is found in abundance around the shore. Some of the islands are wooded.
000440	Lough Ree SAC	One of the largest and most important lakes in Ireland Lough Ree is an excellent example of a natural eutrophic system. The woodlands at the site are considered the best in the midlands. The site also contains very good examples of degraded raised bog much of which retain a typical raised bog flora and which could be improved by restoration works. Bog woodland is also represented though some of this is planted Pinus species. A further area of wet woodland on cutover peat is notable for the abundance of Frangula alnus. Good to moderate examples of alkaline fens and calcareous dry grasslands also occur. Limestone pavement with species-rich woodland occurs at Rathcline. Several Red Data plant species occur. Lutra lutra is frequent on the site and the fish Coregonus autumnalis pollan has been recorded. It is an important bird site for wintering and breeding waterfowl and has a colony of Sterna hirundo. It is of particular importance for the breeding population of Melanitta nigra as it is one of only three sites for the species in Ireland. Water quality of the lake is considered good.	A large mesotrophic moderate-eutrophic lake situated in an ice deepened depression in carboniferous limestone on the River Shannon. Greater part is less than 10 m in depth but there are deep troughs from north to south of depths between 17-33 m. Lough Ree has a long and much indented shoreline mostly stony with some gravel and sand. In parts reed swamp alkaline fen bog freshwater marshes wet and dry grassland and wet woodland occurs. Numerous islands some wooded occur in the lake. Dry broad-leaved woodland of good quality is included in site. Lough Ree is surrounded by agricultural land of moderate to high intensity and is close to Athlone town. Eutrophication may be a problem but at present Lough Ree is less affected than other midland lakes notably Lough Derg.

Appendix 1 - Table 2 Background data for European sites considered in the assessment; including the Qualifying features (Qualifying Interests or Special Conservation Interests) and the known threats and pressures as recorded by the National Parks and Wildlife Services

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
004080	Boyne Estuary SPA	Oystercatcher (Haematopus ostralegus) [A130], Shelduck (Tadorna tadorna) [A048], Lapwing (Vanellus vanellus) [A142], Sanderling (Calidris alba) [A144], Knot (Calidris canutus) [A143], Grey Plover (Pluvialis squatarola) [A141], Little Tern (Sterna albifrons) [A195], Black-tailed Godwit (Limosa limosa) [A156], Wetland and Waterbirds [A999], Turnstone (Arenaria interpres) [A169], Golden Plover (Pluvialis apricaria) [A140], Redshank (Tringa totanus) [A162]	E01, G01.02, F01, G02.01, F02.03, J02.05, J02.11, I01, J02.01.02	Urbanised areas, human habitation, Walking, horseriding and non-motorised vehicles, Marine and Freshwater Aquaculture, Golf course, Leisure fishing, Modification of hydrographic functioning, general, Siltation rate changes, dumping, depositing of dredged deposits, Invasive non-native species, Reclamation of land from sea, estuary or marsh
001957	Boyne Coast and Estuary SAC	Embryonic shifting dunes [2110], Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330], Salicornia and other annuals colonising mud and sand [1310], Annual vegetation of drift lines [1210], Estuaries [1130], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130], Mudflats and sandflats not covered by seawater at low tide [1140]	G01.03.02, G05, G03, I01, E03.03, J02, J03.03, K02, E01, D01.01, D01.05, J02.01.03, J02.02, L07, J02.12, G05.04, G01.02, H01, E03.01, E05, J02.12.01	Off-road motorized driving, Other human intrusions and disturbances , Interpretative centres, Invasive non-native species, Disposal of inert materials, Human induced changes in hydraulic conditions, Reduction, lack or prevention of erosion, Biocenotic evolution, succession, Urbanised areas, human habitation, Paths, tracks, cycling tracks, Bridge, viaduct, Infilling of ditches, dykes, ponds, pools, marshes or pits, Removal of sediments (mud...), Storm, cyclone, Dykes, embankments, artificial beaches, general, Vandalism, Walking, horseriding and non-motorised vehicles, Pollution to surface waters (limnic & terrestrial, marine & brackish), Disposal of household or recreational facility waste, Storage of materials, Sea defense or coast protection works, tidal barrages
004158	River Nanny Estuary and Shore SPA	Wetland and Waterbirds [A999], Herring Gull (Larus argentatus) [A184], Oystercatcher (Haematopus ostralegus) [A130], Golden Plover (Pluvialis apricaria) [A140], Ringed Plover (Charadrius hiaticula) [A137], Knot (Calidris canutus) [A143], Sanderling (Calidris alba) [A144]	G01.02, E01.01	Walking, horseriding and non-motorised vehicles, Continuous urbanisation
004232	River Boyne and River Blackwater SPA	Kingfisher (Alcedo atthis) [A229]	D01.02, E01, X, E01.03, J02	Roads, motorways, Urbanised areas, human habitation, No threats or pressures, Dispersed habitation, Human induced changes in hydraulic conditions
004236	North-west Irish Sea SPA	Red-throated (Diver Gavia stellata [A001], Great Northern (Diver Gavia immer [A003], Fulmar (Fulmarus glacialis [A009], Manx Shearwater (Puffinus puffinus [A013], Cormorant (Phalacrocorax carbo) [A017], Shag (Phalacrocorax aristotelis) [A018], Common Scoter (Melanitta nigra) [A065], Black-headed Gull (Chroicocephalus ridibundus) [A179], Common Gull (Larus canus) [A182], Lesser Black-backed Gull (Larus	A09, C05, F07, F22, F23, G01, G06, A09, A11, B01, D01, E02, G10, G12, I02, I04, I05, J02, L06, M08, N03, N05, N06, N07	Agriculture, forestry, peat extraction, renewable energy, shipping, fishing, invasive species, problematic native species, pests and pathogens, sport, tourism and leisure, marine particulate pollution, aquaculture, interspecific relations.

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
		fuscus) [A183], Herring Gull (Larus argentatus) [A184], Great Black-backed Gull (Larus marinus) [A187], Kittiwake (Rissa tridactyla) [A188], Roseate Tern (Sterna dougallii) [A192], Common Tern (Sterna hirundo) [A193], Arctic Tern (Sterna paradisaea) [A194], Little Tern (Sterna albifrons) [A195], Guillemot (Uria aalge) [A199], Razorbill (Alca torda) [A200], Puffin (Fratercula arctica) [A204], Little Gull (Hydrocoloeus minutus) [A862],		
004014	Rockabill SPA	Rockabill SPA	Purple Sandpiper (Calidris maritima) [A148], Common tern (Sterna hirundo) [A193], Arctic tern (Sterna paradisaea) [A194], Roseate Tern (Sterna dougallii) [A192]	G01.01, D06
001398	Rye Water Valley/Carton SAC	Narrow-mouthed whorl snail (Vertigo angustior) [1014], Desmoulin`s whorl snail (Vertigo moulinsiana) [1016], Petrifying springs with tufa formation (Cratoneurion) [7220]	E01.03, A08, A04, B, D01.02, E01.01, J02.05.02, A10.01	Dispersed habitation, Fertilisation, Grazing, Sylviculture, forestry, Roads, motorways, Continuous urbanisation, Modifying structures of inland water courses, Removal of hedges and copses or scrub
002342	Mount Hevey Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	C01.03.02, K04.02, J02.03, D01.01, J02.05, E03.01, B02.02, I01, J02.01, D01.04, I03	Mechanical removal of peat, Parasitism (flora), Canalisation & water deviation, Paths, tracks, cycling tracks, Modification of hydrographic functioning, general, Disposal of household or recreational facility waste, Forestry clearance, Invasive non-native species, Landfill, land reclamation and drying out, general, Railway lines, TGV, Introduced genetic material, GMO
002299	River Boyne and River Blackwater SAC	River Boyne and River Blackwater SAC	Alkaline fens [7230], Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0], Atlantic salmon (Salmo salar) [1106], Otter (Lutra lutra) [1355],	A01, A03, E02, J02.15, A10.01, D01.05, E05, J02.05.02, G01, G02.10, B01.02, A08, C01.01, J02, H01, G05, J02.10, A07, E03.04, J02.11, I01, G05.06, A05.02, D01.02, E03.02, E01.04

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
			River lamprey (Lampetra fluviatilis) [1099]	
002203	Girley (Drewstown) Bog SAC	Degraded raised bogs still capable of natural regeneration [7120]	J02.15, I02, I01, J01.01, J02.01, B02.02	Other human induced changes in hydraulic conditions, Problematic native species, Invasive non-native species, Burning down, Landfill, land reclamation and drying out, general, Forestry clearance
002120	Lough Bane and Lough Glass SAC	White-clawed crayfish (Austropotamobius pallipes) [1092], Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	A10.01, J02.06.02	Removal of hedges and copses or scrub, Surface water abstractions for public water supply
001810	White Lough, Ben Loughs and Lough Doo SAC	White-clawed crayfish (Austropotamobius pallipes) [1092], Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	J02.01, A04.03, A11, E03.03, A08, G01, F03.02.03	Landfill, land reclamation and drying out, general, Abandonment of pastoral systems lack of grazing, Agriculture activities not referred to above, Disposal of inert materials, Fertilisation, Outdoor sports and leisure activities, recreational activities, Trapping, poisoning, poaching
002340	Moneybeg and Clareisland Bogs SAC	Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150], Degraded raised bogs still capable of natural regeneration [7120]	B02.02, E03.01, C01.03.02, G02.10, F03.01, J02.15, I01, J01.01	Forestry clearance, Disposal of household or recreational facility waste, Mechanical removal of peat, Other sport or leisure complexes, Hunting, Other human induced changes in hydraulic conditions, Invasive non-native species, Burning down
004065	Lough Sheelin SPA	Goldeneye (Bucephala clangula) [A067], Wetland and Waterbirds [A999], Great Crested Grebe (Podiceps cristatus) [A005], Pochard (Aythya ferina) [A059], Tufted Duck (Aythya fuligula) [A061]	F02.03, A05.01, A08, B	Leisure fishing, Animal breeding, Fertilisation, Sylviculture, forestry
000006	Killyconny Bog (Cloghbally) SAC	Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110]	G05.04, J01, J02, J02.01, G01.03.02, B01, D01.01, A04.01.01, C01, A08, G05.09, F06.01, H05.01, G01	Vandalism, Fire and fire suppression, Human induced changes in hydraulic conditions, Landfill, land reclamation and drying out, general, Off-road motorized driving, Forest planting on open ground, Paths, tracks, cycling tracks, Intensive cattle grazing, Mining and quarrying, Fertilisation, Fences, fencing, Game or bird breeding station, Garbage and solid waste, Outdoor sports and leisure activities, recreational activities
004061	Lough Kinale and Derragh Lough SPA	Tufted Duck (Aythya fuligula) [A061], Wetland and Waterbirds [A999], Pochard (Aythya ferina) [A059]	A05.01, F03.01, B, A08, X, F02.03	Animal breeding, Hunting, Sylviculture, forestry, Fertilisation, No threats or pressures, Leisure fishing
002121	Lough Lene SAC	White-clawed crayfish (Austropotamobius pallipes) [1092], Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	A04.03, D03.01.02, X, A08, A11, H01.08	Abandonment of pastoral systems lack of grazing, Piers or tourist harbours or recreational piers, No threats or pressures, Fertilisation, Agriculture activities not referred to above, Diffuse pollution to surface waters due to household sewage and waste waters

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
002201	Derragh Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Bog woodland [91D0]	I02, J02.15, J01.01, I01, B02.02	Problematic native species, Other human induced changes in hydraulic conditions, Burning down, Invasive non-native species, Forestry clearance
001459	Clogher Head SAC	European dry heaths [4030], Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	J03.01, J02.12.01, E06.02, D01.01, D03.01.03, E05, X, D03.01, A04.02, E03.01, I01, G02, F02.01, A04.03, D03.01.02	Reduction or loss of specific habitat features, Sea defense or coast protection works, tidal barrages, Reconstruction, renovation of buildings, Paths, tracks, cycling tracks, Fishing harbours, Storage of materials, No threats or pressures, Port areas, Non intensive grazing, Disposal of household or recreational facility waste, Invasive non-native species, Sport and leisure structures, Professional passive fishing , Abandonment of pastoral systems lack of grazing, Piers or tourist harbours or recreational piers
000925	The Long Derries, Edenderry SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) * important orchid sites [6210]	D01, X, G01.03.02, K02.01, E05, K01.01, A04.03	Roads, paths and railroads, No threats or pressures, Off-road motorized driving, Species composition change (succession), Storage of materials, Erosion, Abandonment of pastoral systems lack of grazing
004122	Skerries Islands SPA	Cormorant (Phalacrocorax carbo) [A017], Turnstone (Arenaria interpres) [A169], Purple Sandpiper (Calidris maritima) [A148], Shag (Phalacrocorax aristotelis) [A018], Herring Gull (Larus argentatus) [A184], Light-bellied Brent Goose (Branta bernicla hrota) [A046]	G01.02	Walking, horse riding and non-motorised vehicles
004091	Stabannan-Braganstown SPA	Greylag goose (Anser anser) [A043]	A04, A08, A02, A01, D01.02	Grazing, Fertilisation, Modification of cultivation practices, Cultivation, Roads, motorways
003000	Rockabill to Dalkey Island SAC	Harbour porpoise (Phocoena phocoena) [1351], Reefs [1170]	H06.01, D02, F02.02, X, D03.02, E03, J02.02, J02.11	Noise nuisance, noise pollution, Utility and service lines, Professional active fishing , No threats or pressures, Shipping lanes, Discharges, Removal of sediments (mud...), Siltation rate changes, dumping, depositing of dredged deposits
001387	Ballynafagh Lake SAC	Alkaline fens [7230], Marsh Fritillary (Euphydryas aurinia) [1065], Desmoulin`s whorl snail (Vertigo moulinsiana) [1016]	F02.03, A04	Leisure fishing, Grazing
000391	Ballynafagh Bog SAC	Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120]	D05, G05, C01.03, J01, E01.04, B01	Improved access to site, Other human intrusions and disturbances , Peat extraction, Fire and fire suppression, Other patterns of habitation, Forest planting on open ground
000582	Raheenmore Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Active raised bogs [7110], Depressions on peat substrates of the Rhynchosporion [7150]	X, A02.01, J02.01.03	No threats or pressures, Agricultural intensification, Infilling of ditches, dykes, ponds, pools, marshes or pits

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
002205	Wooddown Bog SAC	Degraded raised bogs still capable of natural regeneration [7120]	J02.01, J01.01, C01.03.01, J02.15, I01, I02, B02.02	Landfill, land reclamation and drying out, general, Burning down, Hand cutting of peat, Other human induced changes in hydraulic conditions, Invasive non-native species, Problematic native species, Forestry clearance
004044	Lough Ennell SPA	Tufted Duck (Aythya fuligula) [A061], Coot (Fulica atra) [A125], Pochard (Aythya ferina) [A059], Wetland and Waterbirds [A999]	G01.01, G01.02, F02.03, E01, F03.01, G05.01, B, A08	Nautical sports, Walking, horseriding and non-motorised vehicles, Leisure fishing, Urbanised areas, human habitation, Hunting, Trampling, overuse, Sylviculture, forestry, Fertilisation
000685	Lough Ennell SAC	Alkaline fens [7230]	F02.03.02, H01.05, A04.02.05, J02.05.02, F03.01, H06.01.01, A04.03, B02.02, J02.01, H06.02, H01.08, K03.01, A04.01.01, D01.01	Pole fishing, Diffuse pollution to surface waters due to agricultural and forestry activities, Non intensive mixed animal grazing, Modifying structures of inland water courses, Hunting, Point source or irregular noise pollution, Abandonment of pastoral systems lack of grazing, Forestry clearance, Landfill, land reclamation and drying out, general, Light pollution, Diffuse pollution to surface waters due to household sewage and waste waters, Competition (fauna), Intensive cattle grazing, Paths, tracks, cycling tracks
000205	Malahide Estuary SAC	Salicornia and other annuals colonising mud and sand [1310], Mudflats and sandflats not covered by seawater at low tide [1140], Mediterranean salt meadows (Juncetalia maritimi) [1410], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	E01, J02.01.02, D01.02, G01.01, G01.03, I01, G01.02, A08, G02.01, X, F03.01, D01.05	Urbanised areas, human habitation, Reclamation of land from sea, estuary or marsh, Roads, motorways, Nautical sports, Motorised vehicles, Invasive non-native species, Walking, horse riding and non-motorised vehicles, Fertilisation, Golf course, No threats or pressures, Hunting, Bridge, viaduct
004016	Baldoyle Bay SPA	Ringed Plover (Charadrius hiaticula) [A137], Light-bellied Brent Goose (Branta bernicla hrota) [A046], Shelduck (Tadorna tadorna) [A048], Wetland and Waterbirds [A999], Bar-tailed Godwit (Limosa lapponica) [A157], Golden Plover (Pluvialis apricaria) [A140], Grey Plover (Pluvialis squatarola) [A141]	F02.03.01, J02.01.02, G02.01, A08, E01, F03.01, D01.02, K02.03, I01, G01.02	Bait digging or collection, Reclamation of land from sea, estuary or marsh, Golf course, Fertilisation, Urbanised areas, human habitation, Hunting, Roads, motorways, Eutrophication (natural), Invasive non-native species, Walking, horse riding and non-motorised vehicles
004026	Dundalk Bay SPA	Lapwing (Vanellus vanellus) [A142], Greylag Goose (Anser anser) [A043], Dunlin (Calidris alpina) [A149], Pintail (Anas acuta) [A054], Red-breasted Merganser (Mergus serrator) [A069], Herring Gull (Larus argentatus) [A184], Common Scoter (Melanitta nigra) [A065], Black-headed Gull (Chroicocephalus ridibundus) [A179], Ringed Plover (Charadrius hiaticula) [A137], Light-bellied Brent Goose	F02.03, E01, J02.12, E02, A04, D03.02, G01.02, E01.03, J02.11, I01, E03, G01.01, D01.02, A08	Leisure fishing, Urbanised areas, human habitation, Dykes, embankments, artificial beaches, general, Industrial or commercial areas, Grazing, Shipping lanes, Walking, horseriding and non-motorised vehicles, Dispersed habitation, Siltation rate changes, dumping, depositing of dredged deposits, Invasive non-native species, Discharges, Nautical sports, Roads, motorways, Fertilisation

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
		(Branta bernicla hrota) [A046], Redshank (Tringa totanus) [A162], Teal (Anas crecca) [A052],		
002341	Ardagullion Bog SAC	Active raised bogs [7110], Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150]	J02.15, X	Other human induced changes in hydraulic conditions, No threats or pressures
004015	Rogerstown Estuary SPA	Oystercatcher (Haematopus ostralegus) [A130], Light-bellied Brent Goose (Branta bernicla hrota) [A046], Shelduck (Tadorna tadorna) [A048], Shoveler (Anas clypeata) [A056], Grey Plover (Pluvialis squatarola) [A141], Ringed Plover (Charadrius hiaticula) [A137], Knot (Calidris canutus) [A143], Greylag Goose (Anser anser) [A043], Dunlin (Calidris alpina) [A149], Redshank (Tringa totanus) [A162], Wetland and Waterbirds [A999], Black-tailed Godwit (Limosa limosa) [A156]	E01.03, A04, I01, G01.01, G02.01, E03.02, E03.01, F02.03.01, J02.01, A08, F03.01	Dispersed habitation, Grazing, Invasive non-native species, Nautical sports, Golf course, Disposal of industrial waste, Disposal of household or recreational facility waste, Bait digging or collection, Landfill, land reclamation and drying out, general, Fertilisation, Hunting
000208	Rogerstown Estuary SAC	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330], Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Mudflats and sandflats not covered by seawater at low tide [1140], Estuaries [1130], Mediterranean salt meadows (Juncetalia maritimi) [1410], Salicornia and other annuals colonising mud and sand [1310]	D01.02, A07, E01.03, K01.01, I01, X, A04, F02.03.01, G02.01, J02.01.02, E03, G01.01, J02.12.01, A08, G01.02	Roads, motorways, Use of biocides, hormones and chemicals, Dispersed habitation, Erosion, Invasive non-native species, No threats or pressures, Grazing, Bait digging or collection, Golf course, Reclamation of land from sea, estuary or marsh, Discharges, Nautical sports, Sea defense or coast protection works, tidal barrages, Fertilisation, Walking, horse riding and non-motorised vehicles
000679	Garriskil Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110]	I02, I01, J01.01, A04.02.01, J02.15, C01.03.02	Problematic native species, Invasive non-native species, Burning down, Non intensive cattle grazing, Other human induced changes in hydraulic conditions, Mechanical removal of peat
004102	Garriskil Bog SPA	Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]	B01, D01.04, A04, J02.05.02, A10, J01	Forest planting on open ground, Railway lines, TGV, Grazing, Modifying structures of inland water courses, Restructuring agricultural land holding, Fire and fire suppression
001209	Glenasmole Valley SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) * important orchid sites [6210], Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410], Petrifying springs with tufa formation (Cratoneurion) [7220]	A04, B02.01.02, A04.02.03, A08, F02.03, H02.07, B02.02, A04.02.02, B01.02, B01.01, E01.02, H01.08, D01, J02, A03.03, A04.02.01, C01.03, H01.05, A03, I01, D01.03	Grazing, Forest replanting (non native trees), Non intensive horse grazing, Fertilisation, Leisure fishing, Diffuse groundwater pollution due to non-sewered population, Forestry clearance, Non intensive sheep grazing, Artificial planting on open ground (non-native trees), Forest planting on open ground (native trees), Discontinuous urbanisation, Diffuse pollution to surface waters due to household sewage and waste waters, Roads, paths and railroads, Human induced changes in hydraulic conditions, Abandonment or lack of mowing , Non intensive cattle grazing, Peat extraction, Diffuse pollution to surface waters due to agricultural and forestry activities,

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
				Mowing or cutting of grassland, Invasive non-native species, Car parcs and parking areas
004006	North Bull Island SPA	Shelduck (Tadorna tadorna) [A048], Light-bellied Brent Goose (Branta bernicla hrota) [A046], Oystercatcher (Haematopus ostralegus) [A130], Knot (Calidris canutus) [A143], Golden Plover (Pluvialis apricaria) [A140], Pintail (Anas acuta) [A054], Black-tailed Godwit (Limosa limosa) [A156], Dunlin (Calidris alpina) [A149], Turnstone (Arenaria interpres) [A169], Grey Plover (Pluvialis squatarola) [A141], Bar-tailed Godwit (Limosa lapponica) [A157], Curlew (Numenius arquata) [A160], Teal (Anas crecca) [A052], Shoveler (Anas clypeata) [A056], Wetland and Waterbirds [A999], Sanderling (Calidris alba) [A144], Black-headed Gull (Chroicocephalus ridibundus) [A179], Redshank (Tringa totanus) [A162]	D03.02, E01.04, D01.02, G01.01, G01.02, D01.05, G03, G02.01, E01.01, E03, F02.03.01, E02	Shipping lanes, Other patterns of habitation, Roads, motorways, Nautical sports, Walking, horse riding and non-motorised vehicles, Bridge, viaduct, Interpretative centres, Golf course, Continuous urbanisation, Discharges, Bait digging or collection, Industrial or commercial areas
004024	South Dublin Bay and River Tolka Estuary SPA	Common tern (Sterna hirundo) [A193], Grey Plover (Pluvialis squatarola) [A141], Redshank (Tringa totanus) [A162], Ringed Plover (Charadrius hiaticula) [A137], Black-headed Gull (Chroicocephalus ridibundus) [A179], Oystercatcher (Haematopus ostralegus) [A130], Sanderling (Calidris alba) [A144], Bar-tailed Godwit (Limosa lapponica) [A157], Wetland and Waterbirds [A999], Dunlin (Calidris alpina) [A149], Arctic tern (Sterna paradisaea) [A194], Roseate Tern (Sterna dougallii) [A192], Light-bellied Brent Goose (Branta bernicla hrota) [A046], Knot (Calidris canutus) [A143]	E01, F02.03.01, F02.03, K02.03, E03, G01.01, J02.01.02, D01.02, G01.02, E02	Urbanised areas, human habitation, Bait digging or collection, Leisure fishing, Eutrophication (natural), Discharges, Nautical sports, Reclamation of land from sea, estuary or marsh, Roads, motorways, Walking, horse riding and non-motorised vehicles, Industrial or commercial areas
000455	Dundalk Bay SAC	Salicornia and other annuals colonising mud and sand [1310], Perennial vegetation of stony banks [1220], Mudflats and sandflats not covered by seawater at low tide [1140], Mediterranean salt meadows (Juncetalia maritimi) [1410], Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330], Estuaries [1130]	G02.09, I01, J02.12.01, H01,H02.06, J02.04, J03.01, H04.02,M02.04, J02.01.03, G02, J02.01.02, H05, E03.03, F02.03.01, K04.01, J02.04.01, E03.01, F05, H01.06, K01.01, G01, G05.02, H05.01, K02, G01.01.01, J03.02	Wildlife watching, Invasive non-native species, Sea defense or coast protection works, tidal barrages, Pollution to surface waters (limnic & terrestrial, marine & brackish), Diffuse groundwater pollution due to agricultural and forestry activities, Flooding modifications, Reduction or loss of specific habitat features, Nitrogen-input, Migration of species (natural newcomers), Infilling of ditches, dykes, ponds, pools, marshes or pits, Sport and leisure structures, Reclamation of land from sea, estuary or marsh, Soil pollution and solid waste (excluding discharges), Disposal of inert materials, Bait digging or collection, Competition (flora), Flooding, Disposal of household or recreational facility waste, Illegal taking or removal of marine fauna, Diffuse pollution to surface waters due to transport and infrastructure without connection to canalization or sweepers, Erosion, Outdoor sports and leisure activities, recreational activities, Shallow surface abrasion or mechanical damage to seabed surface, Garbage and solid

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
				waste, Biocenotic evolution, succession, Motorized nautical sports, Anthropogenic reduction of habitat connectivity
000210	South Dublin Bay SAC	Embryonic shifting dunes [2110], Salicornia and other annuals colonising mud and sand [1310], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210]	K02.02, E02, J02.01.02, E03, G01.01, D01.02, E01, K02, G01.01.02, D01.01, F02.03.01, H03, M01, G01.02	Accumulation of organic material, Industrial or commercial areas, Reclamation of land from sea, estuary or marsh, Discharges, Nautical sports, Roads, motorways, Urbanised areas, human habitation, Biocenotic evolution, succession, Non-motorized nautical sports, Paths, tracks, cycling tracks, Bait digging or collection, Marine water pollution, Changes in abiotic conditions, Walking, horse riding and non-motorised vehicles
000206	North Dublin Bay SAC	Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Mudflats and sandflats not covered by seawater at low tide [1140], Annual vegetation of drift lines [1210], Embryonic shifting dunes [2110], Petalwort (Petalophyllum ralfsii) [1395], Humid dune slacks [2190], Mediterranean salt meadows (Juncetalia maritimi) [1410], Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330], Salicornia and other annuals colonising mud and sand [1310], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130]	E01, G02.01, A04, J01.01, K03.06, F02.03, I01, G01.01, E02, E03, F02.03.01, H01.03, H01.09, G01.02, G05.05	Urbanised areas, human habitation, Golf course, Grazing, Burning down, Antagonism with domestic animals, Leisure fishing, Invasive non-native species, Nautical sports, Industrial or commercial areas, Discharges, Bait digging or collection, Other point source pollution to surface water, Diffuse pollution to surface waters due to other sources not listed, Walking, horse riding and non-motorised vehicles, Intensive maintenance of public parcs or cleaning of beaches
002331	Mouds Bog SAC	Degraded raised bogs still capable of natural regeneration [7120], Depressions on peat substrates of the Rhynchosporion [7150], Active raised bogs [7110]	C01.03.02, A01, J01, B, I01, A04, E02	Mechanical removal of peat, Cultivation, Fire and fire suppression, Sylviculture, forestry, Invasive non-native species, Grazing, Industrial or commercial areas
000202	Howth Head SAC	Vegetated sea cliffs of the Atlantic and Baltic Coasts [1230], European dry heaths [4030]	A04.03, G01.02, I01, J01.01, X, C01.01.01, D01.01, C01, E01, G05.04	Abandonment of pastoral systems lack of grazing, Walking, horse riding and non-motorised vehicles, Invasive non-native species, Burning down, No threats or pressures, Sand and gravel quarries, Paths, tracks, cycling tracks, Mining and quarrying, Urbanised areas, human habitation, Vandalism
004040	Wicklow Mountains SPA	Peregrine falcon (Falco peregrinus) [A103], Merlin (Falco columbarius) [A098]	G03, C01.03, G01.02, A04, D01.01, B	Interpretative centres, Peat extraction, Walking, horse riding and non-motorised vehicles, Grazing, Paths, tracks, cycling tracks, Sylviculture, forestry
002122	Wicklow Mountains SAC	Natural dystrophic lakes and ponds [3160], Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110], Otter (Lutra lutra) [1355], Northern Atlantic wet heaths with Erica tetralix [4010], Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0], Blanket bogs * if active bog [7130], Calaminarian grasslands of the Violetalia calaminariae [6130], European dry	D01.01, B06, G01, G04.01, B02.05, J01.01, G01.02, K04.05, E03.01, E01, G01.03.02, G05.09, G05.01, G02.09, F04.02,	Paths, tracks, cycling tracks, Grazing in forests or woodland, Outdoor sports and leisure activities, recreational activities, Military manoeuvres, Non- intensive timber production (leaving dead wood or old trees untouched), Burning down, Walking, horse riding and non-motorised vehicles, Damage by herbivores (including game species), Disposal of household or recreational facility waste, Urbanised areas, human habitation, Off-road motorized driving, Fences, fencing,

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
		heaths [4030], Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110], Species-rich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Calcareous rocky slopes with chasmophytic vegetation [8210], Alpine and Boreal heaths [4060], Siliceous rocky slopes with chasmophytic vegetation [8220]	G05.07, A04, K01.01, C01.03, A05.02, F03, G05.06, G01.04, I01, L05, F03.02.02, G05.04	Trampling, overuse, Wildlife watching, Collection (fungi, lichen, berries etc.), Missing or wrongly directed conservation measures, Grazing, Erosion, Peat extraction, Stock feeding, Hunting and collection of wild animals (terrestrial), Tree surgery, felling for public safety, removal of roadside trees, Mountaineering, rock climbing, speleology, Invasive non-native species, Collapse of terrain, landslide, Taking from nest (e.g. falcons), Vandalism
000397	Red Bog, Kildare SAC	Transition mires and quaking bogs [7140]	A08, F02.03, A04, E01.03, C01.01, F03.01	Fertilisation, Leisure fishing, Grazing, Dispersed habitation, Sand and gravel extraction , Hunting
000688	Lough Owel SAC	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140], Alkaline fens [7230], Transition mires and quaking bogs [7140], White-clawed crayfish (Austropotamobius pallipes) [1092]	F03.01, D03.01.02, D04, J02.06.02, G02.10, X, G01, H01.05, J02.01	Hunting, Piers or tourist harbours or recreational piers, Airports, flightpaths, Surface water abstractions for public water supply, Other sport or leisure complexes, No threats or pressures, Outdoor sports and leisure activities, recreational activities, Diffuse pollution to surface waters due to agricultural and forestry activities, Landfill, land reclamation and drying out, general
004047	Lough Owel SPA	Coot (Fulica atra) [A125], Shoveler (Anas clypeata) [A056], Wetland and Waterbirds [A999]	J02, B, F02.03, A08, F03.01	Human induced changes in hydraulic conditions, Sylviculture, forestry, Leisure fishing, Fertilisation, Hunting
004113	Howth Head Coast SPA	Kittiwake (Rissa tridactyla) [A188]	J01, G01.02	Fire and fire suppression, Walking, horse riding and non-motorised vehicles
004063	Poulaphouca Reservoir SPA	Lesser Black-backed Gull (Larus fuscus) [A183], Greylag Goose (Anser anser) [A043]	F03.01, B01, G01.01, F02.03, D01.05	Hunting, Forest planting on open ground, Nautical sports, Leisure fishing, Bridge, viaduct
004046	Lough Iron SPA	Shoveler (Anas clypeata) [A056], Wigeon (Anas penelope) [A050], Wetland and Waterbirds [A999], Teal (Anas crecca) [A052], Coot (Fulica atra) [A125], Golden Plover (Pluvialis apricaria) [A140], Greenland White-fronted Goose (Anser albifrons flavirostris) [A395], Whooper Swan (Cygnus cygnus) [A038]	B, A04, A08	Sylviculture, forestry, Grazing, Fertilisation
002313	Ballymore Fen SAC	Transition mires and quaking bogs [7140]	A03.02, A08, A04.03, A04.02.05, I02, H01.03	Non intensive mowing, Fertilisation, Abandonment of pastoral systems lack of grazing, Non intensive mixed animal grazing, Problematic native species, Other point source pollution to surface water

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
002306	Carlingford Shore SAC	Perennial vegetation of stony banks [1220], Annual vegetation of drift lines [1210]	F05, G05, F02, F04.02.01, F01.02, H01, F05.07, F06, F01.03, G01.03, F02.03, G01.01, F01, F03.01, X, H01.01, G01.03.01	Illegal taking or removal of marine fauna, Other human intrusions and disturbances , Fishing and harvesting aquatic resources, Hand raking, Suspension culture, Pollution to surface waters (limnic & terrestrial, marine & brackish), Other (i.e. drift nets), Hunting, fishing or collecting activities not referred to above, Bottom culture, Motorised vehicles, Leisure fishing, Nautical sports, Marine and Freshwater Aquaculture, Hunting, No threats or pressures, Pollution to surface waters by industrial plants, Regular motorized driving
004078	Carlingford Lough SPA	Light-bellied Brent Goose (Branta bernicla hrota) [A046], Wetland and Waterbirds [A999]	F01	Marine and Freshwater Aquaculture
000453	Carlingford Mountain SAC	Alkaline fens [7230], Calcareous rocky slopes with chasmophytic vegetation [8210], European dry heaths [4030], Alpine and Boreal heaths [4060], Transition mires and quaking bogs [7140], Speciesrich Nardus grasslands, on siliceous substrates in mountain areas - and submountain areas in Continental Europe [6230], Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110], Northern Atlantic wet heaths with Erica tetralix [4010], Blanket bogs * if active bog [7130]	J02.01.03, B02.01, I03.01, J01, G02, J03.02, I02, K04.01, D02.03, I01, B02.02, A04.03, X, A04.02, G05, J03.01, G01.08, G01.03.02, G05.01	Infilling of ditches, dykes, ponds, pools, marshes or pits, Forest replanting, Genetic pollution (animals), Fire and fire suppression, Sport and leisure structures, Anthropogenic reduction of habitat connectivity, Problematic native species, Competition (flora), Communication masts and antennas, Invasive non-native species, Forestry clearance, Abandonment of pastoral systems lack of grazing, No threats or pressures, Non intensive grazing, Other human intrusions and disturbances , Reduction or loss of specific habitat features, Other outdoor sports and leisure activities, Off-road motorized driving, Trampling, overuse
004045	Glen Lough SPA	Whooper Swan (Cygnus cygnus) [A038]	B01, X, A08	Forest planting on open ground, No threats or pressures, Fertilisation
004064	Lough Ree SPA	Common Scoter (Melanitta nigra) [A065], Goldeneye (Bucephala clangula) [A067], Coot (Fulica atra) [A125], Shoveler (Anas clypeata) [A056], Teal (Anas crecca) [A052], Wigeon (Anas penelope) [A050], Tufted Duck (Aythya fuligula) [A061], Common tern (Sterna hirundo) [A193], Golden Plover (Pluvialis apricaria) [A140], Wetland and Waterbirds [A999], Little Grebe (Tachybaptus ruficollis) [A004], Whooper Swan (Cygnus cygnus) [A038], Mallard (Anas platyrhynchos) [A053], Lapwing (Vanellus vanellus) [A142]	A04, F02.03, A08, G01.02, B, F03.01, G01.01, I01	Grazing, Leisure fishing, Fertilisation, Walking, horseriding and non-motorised vehicles, Sylviculture, forestry, Hunting, Nautical sports, Invasive non-native species
000440	Lough Ree SAC	Bog woodland [91D0], Active raised bogs [7110], Alkaline fens [7230], Otter (Lutra lutra) [1355], Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150], Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0], Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) * important	A03.03, D03.01.02, K03.05, F03.01, A08, I01, H06.03, J02.11.02, H01.08, F02.03, B02, G02.09, G01.01,	Abandonment or lack of mowing , Piers or tourist harbours or recreational piers, Antagonism arising from introduction of species, Hunting, Fertilisation, Invasive non-native species, Thermal heating of water bodies, Other siltation rate changes, Diffuse pollution to surface waters due to household sewage and waste waters, Leisure fishing, Forest and Plantation management & use, Wildlife watching, Nautical sports, Grazing, Dispersed habitation, Flooding

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
		orchid sites [6210], Limestone pavements [8240], Degraded raised bogs still capable of natural regeneration [7120]	A04, E01.03, J02.04, G01.02, L08, H02.06	modifications, Walking, horseriding and non-motorised vehicles, Inundation (natural processes), Diffuse groundwater pollution due to agricultural and forestry activities

Appendix 1 - Table 3 Known threats and pressures related to the qualifying interests from each Special Area of Conservation as per Article 17 reporting from the National Parks and Wildlife Services

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Estuaries	[1130]	Pollution, fishing /aquaculture and habitat quality.	Inappropriate development, changes in turbidity
Mudflats and sandflats not covered by seawater at low tide	[1140]	Aquaculture, fishing, bait digging, removal of fauna, reclamation of land, coastal protection works and invasive species, particularly cord-grass; hard coastal defence structures; sea-level rise.	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development.
Annual vegetation of drift lines	[1210]	Grazing; sand and gravel extraction; recreational activities; coastal protection works.	Overgrazing and erosion. Changes in management.
Salicornia and other annuals colonising mud and sand	[1310]	Invasive Species; erosion and accretion.	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	[1330]	Overgrazing; erosion; invasive species, particularly common cordgrass (Spartina anglica); infilling and reclamation.	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion.
Embryonic shifting dunes	[2110]	Natural erosion processes exacerbated by recreation and sand extraction. Coastal protection interfering with natural processes.	Overgrazing, and erosion. Changes in management.
Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	[2120]	Recreation and coastal defences, which may interfere with local sediment dynamics.	Overgrazing, and erosion. Changes in management.
Fixed coastal dunes with herbaceous vegetation (grey dunes)	[2130]	Recreation; overgrazing and inappropriate grazing: non-native plant species, particularly sea buckthorn (Hippophae rhamnoides).	Overgrazing, and erosion. Changes in management.
Petrifying springs with tufa formation (Cratoneurion)	[7220]	Ground water interactions, on site management activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Vertigo angustior (Narrow-mouthed Whorl Snail)	[1014]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Changes to ground vegetation condition, groundwater dependent and is highly sensitive to hydrological changes.
Vertigo moulinsiana (Desmoulin's Whorl Snail)	[1016]	Loss of riverside and canalside habitat; exploitation of esker sites and drainage of wetlands, and sheep grazing and overexploitation of dune sites.	Changes to ground vegetation condition, groundwater dependent and is highly sensitive to hydrological changes.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Active raised bogs	[7110]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface water interactions. Groundwater isolated system with sensitivities related to the bog basin. Drainage and land use management are the key things.
Degraded raised bogs still capable of natural regeneration	[7120]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface water interactions. Groundwater isolated system with sensitivities related to the bog basin. Drainage and land use management are the key things.
Depressions on peat substrates of the Rhynchosporion	[7150]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface and ground water interactions. Drainage and land use management are the key things.
Alkaline fens	[7230]	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
Lampetra fluviatilis (River Lamprey)	[1099]	Channel maintenance, barriers, passage obstruction, gross pollution and specific pollutants.	Surface water dependent. Highly sensitive to hydrological change. Availability of suitable spawning ground is a considerable issue for the species.
Salmo salar (Salmon)	[1106]	Marine survival rates are of concern for the populations.	Disease, parasites and barriers to movement.
Lutra lutra (Otter)	[1355]	Decrease in water quality: Use of pesticides; fertilization; vegetation removal; professional fishing (including lobster pots and fyke nets); hunting; poisoning; sand and gravel extraction; mechanical removal of peat; urbanised areas; human habitation; continuous urbanization; drainage; management of aquatic and bank vegetation for drainage purposes; and canalization or modifying structures of inland water course.	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution.
Hard oligo-mesotrophic waters with benthic vegetation of muskgrass (Chara spp.)	[3140]	Hydrological changes, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
White-clawed Crayfish (Austropotamobius pallipes)	[1092]	Poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment, as well as physical siltation.	Invasive species, disease, surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution.
Vegetated sea cliffs of the Atlantic and Baltic coasts	[1230]	A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. There have been no significant losses in sea cliff habitat since the Directive came into force.	Land use activities such as tourism and/or agricultural practices. Direct alteration to the habitat or effects such as burning or drainage.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
European dry heaths	[4030]	Afforestation, over burning, over-grazing, under-grazing and bracken invasion.	Moderately sensitive to hydrological change. Changes in management. Changes in nutrient status.
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	[6210]	Land reclamation, afforestation; drainage; and infrastructural development.	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
Reefs	[1170]	Professional fishing; taking for fauna; taking for flora; water pollution; climate change; and change in species composition.	Sensitive to disturbance and pollution.
Phocoena phocoena (Harbour Porpoise)	[1351]	Pressures acting on the species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/regional prey removal from fisheries.	Sensitive to disturbance, prey availability and pollution.
Marsh Fritillary (Euphydryas aurinia)	[1065]	Declines in habitat quality lead to species decline.	Habitat management; land use change and drainage.
Mediterranean salt meadows (Juncetalia maritimi)	[1410]	Pressures acting on the species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/regional prey removal from fisheries.	Sensitive to disturbance, prey availability and pollution.
Molinia meadows on calcareous peaty or clayey-silt-laden soils (Molinion caeruleae)	[6410]	Agricultural intensification; drainage; abandonment of pastoral systems.	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
Perennial vegetation of stony banks	[1220]	Disruption of the sediment supply, owing to the interruption of the coastal processes, caused by developments such as car parks and coastal defence structures including rock armour and sea walls. The removal of gravel.	Marine water dependent. Low sensitivity to hydrological changes. Coastal development, trampling from recreational activity and gravel removal.
Humid dune slacks [2190] Petalophyllum ralfsii (Petalwort)	[1395]	There are no significant impacts affecting this species.	None identified.
Natural dystrophic lakes and ponds	[3160]	Nutrient alterations; management shifts in the associated peatland habitat, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution
Northern Atlantic wet heaths with Erica tetralix	[4010]	Reclamation, afforestation and burning; overstocking; invasion by non-heath species; exposure of peat to severe erosion.	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.
Alpine and Boreal heaths	[4060]	Abandonment; overgrazing; burning; outdoor recreation; quarries; communication networks; and wind farm developments.	Changes in management. Changes in nutrient or base status. Moderately sensitive to hydrological change.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Calaminarian grasslands of the Violetalia calaminariae	[6130]	Land reclamation, afforestation; drainage; and infrastructural development.	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
Species-rich Nardus grasslands on siliceous substrates in mountain areas (and submountain areas in Continental Europe)	[6230]	Bracken encroachment, succession, inappropriate grazing, afforestation; drainage; and infrastructural development.	Changes in management such as grazing regime. Changes in nutrient or base status. Changes to vegetation composition. Introduction of alien species.
Blanket bogs (* if active bog)	[7130]	Land reclamation, peat extraction; afforestation; erosion and landslides triggered by human activity; drainage; burning and infrastructural development.	Surface water interactions. Drainage and land use management are the key things.
Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	[8110]	Overgrazing, undergrazing and succession were recorded as medium-importance pressures in this reporting period, and Structure and functions were again assessed as Inadequate, the trend is considered to be stable rather than improving. This change is due to improved knowledge and the habitat is considered to have been stable since before the last assessment.	Erosion, overgrazing and recreation.
Calcareous rocky slopes with chasmophytic vegetation	[8210]	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, overgrazing and recreation.
Siliceous rocky slopes with chasmophytic vegetation	[8220]	Pressures associated with the non-native invasive species New Zealand willowherb (Epilobium brunnescens).	Erosion, overgrazing and recreation.
Old sessile oak woods with Ilex and Blechnum in the British Isles	[91A0]	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.
Transition mires and quaking bogs	[7140]	Drainage; burning; peat extraction; overgrazing; afforestation; erosion; and climate change.	Surface water interactions. Groundwater isolated system with sensitivities related to the bog basin. Drainage and land use management are the key things.
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	[3150]	Hydrological changes, afforestation; waste water; invasive alien species; sport and leisure activities.	Surface and groundwater dependant. Highly sensitive to hydrological changes. Highly sensitive to pollution.
Limestone pavements	[8240]	Overgrazing; extractive industries; recreational activities and improved access.	Erosion, overgrazing and recreation.

Qualifying Interests	EU Code	Current threats to Qualifying Interests	Sensitivity of Qualifying Interests
Bog woodland	[91D0]	The introduction of alien species; sub-optimal grazing patterns; general forestry management; increases in urbanisation and human habitation adjacent to oak woodlands; and the construction of communication networks through the woodland.	Changes in management. Changes in nutrient or base status. Introduction of alien species.

Appendix 1 - Table 4 Known threats and pressures related to the qualifying interests from each Special Protection Area as per Article 17 reporting from the National Parks and Wildlife Services

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A048	Shelduck	*Tadorna Tadorna*	F01, F02, G01, H03, M01	Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Changes in abiotic conditions.
A130	Eurasian Oystercatcher	*Haematopus ostralegus*	C03, F01, F02, G01, H03, J02	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions
A140	European Golden Plover	*Pluvialis apricaria*	A02, A04, B01, C01, C03, F01, G01, H03, J01, K03, M02	Modification of cultivation practices, Grazing, Forest planting on open ground, Mining and quarrying, Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Fire and Fire suppression, Interspecific faunal relations, Changes in biotic conditions
A141	Grey Plover	*Pluvialis squatarola*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A142	Northern Lapwing	*Vanellus vanellus*	A02, C03, F01, G01, H03	Modification of cultivation practices, Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution
A143	Red Knot	*Calidris canutus*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A144	Sanderling	*Calidris alba*	C03, F01, G01, H03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Changes in abiotic conditions

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A156	Black-Tailed Godwit	*Limosa limosa islandica*	A02, C03, F01, F02, G01, H03, J02, J03	Modification of cultivation practices, Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications
A162	Common Redhank	*Tringa totanus*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A169	Ruddy Turnstone	*Arenaria interpres*	C03, F01, G01, H03, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Other Ecosystem Modifications, Changes in abiotic conditions
A195	Little Tern	*Sterna albifrons albifrons*	C03, D01, I01, I02, M01	Renewable abiotic energy use, Roads, paths and railroads, Invasive non-native species, Problematic native species, Changes in abiotic conditions
A137	Common Ringed Plover	*Charadrius hiaticula*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A184	European Herring Gull	*Larus argentatus*	C03, F02, H03, J03	Renewable abiotic energy use, Fishing and harvesting aquatic resources, Marine water pollution, Other Ecosystem Modifications
A229	Common Kingfisher	*Alcedo atthis*	A11, D01, G01, H01, I01, J02	Agriculture activities not referred to above, Roads, paths and railroads, Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Invasive non-native species, Human induced changes in hydraulic conditions
A009	Northern Fulmar	*Fulmarus glacialis*	C03, F02	Renewable abiotic energy use, Fishing and harvesting aquatic resources
A017	Cormorant	*Phalacrocorax carbo carbo*	D01	Wind, wave and tidal power, including infrastructure
A018	European Shag	*Phalacrocorax aristotelis aristotelis*	C03, H03	Renewable abiotic energy use, Marine water pollution
A179	Black-Headed Gull	*Larus ridibundus*	A04, C03, F02, H03, J03, M01	Grazing, Renewable abiotic energy use, Fishing and harvesting aquatic resources, Marine water pollution, Other Ecosystem Modifications, Changes in abiotic conditions

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A183	Lesser Black-Backed Gull	*Larus fuscus graellsii*	C03, F02, H03, J03	Renewable abiotic energy use, Fishing and harvesting aquatic resources, Marine water pollution, Other Ecosystem Modifications
A192	Roseate Tern	*Sterna dougallii dougallii*	C03, D01, G01, I01	Renewable abiotic energy use, Roads, paths and railroads, Outdoor sports and leisure activities, recreational activities, Invasive non-native species
A193	Common Tern	*Sterna hirundo*	C03, D01, D03, G01, I01	Renewable abiotic energy use, Roads, paths and railroads, Shipping lanes, ports, marine constructions, Outdoor sports and leisure activities, recreational activities, Invasive non-native species
A194	Arctic Tern	*Sterna paradisaea*	C03, D01, G01, I01, M01	Renewable abiotic energy use, Roads, paths and railroads, Outdoor sports and leisure activities, recreational activities, Invasive non-native species, Changes in abiotic conditions
A199	Guillemot	*Uria aalge*	C03, H03	Renewable abiotic energy use, Marine water pollution
A200	Razorbill	*Alca torda*	C03, H03	Renewable abiotic energy use, Marine water pollution
A204	Atlantic Puffin	*Fratercula arctica*	C03, H03, I01	Renewable abiotic energy use, Marine water pollution, Invasive non-native species
A148	Purple Sandpiper	*Calidris maritima maritima*	C03, G01, H03, J03, M01	Renewable abiotic energy use, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Other Ecosystem Modifications, Changes in abiotic conditions
A005	Great Crested Grebe	*Podiceps cristatus*	Xxp/Xxt	No threats and pressures identified by the NPWS
A061	Tufted Duck	*Aythya fuligula*	C03, F03, G01, H01, H07, M02	Renewable abiotic energy use, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Other forms of pollution, Changes in biotic conditions
A067	Common Goldeneye	*Bucephala clangula*	C03, F01, F03, G01, H01, H03, H07, M02	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Marine water pollution, Other forms of pollution, Changes in biotic conditions
A046	Light-Bellied Brent Goose	*Branta bernicla hrota*	A02, A11, C03, D02, F01, G01, G05, H03, H07, I01, J03	Modification of cultivation practices, Agriculture activities not referred to above, Renewable abiotic energy use, Utility and service lines, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Other Human intrusions and disturbances , Marine water pollution, Other forms of pollution, Invasive non-native species, Other Ecosystem Modifications

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A043	Greylag Goose	*Anser anser*	A02, A11, C03, D02, F03, G01, H07	Modification of cultivation practices, Agriculture activities not referred to above, Renewable abiotic energy use, Utility and service lines, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Other forms of pollution
A038	Whooper Swan	*Cygnus cygnus*	A02, A11, C03, D02, G01, H07	Modification of cultivation practices, Agriculture activities not referred to above, Renewable abiotic energy use, Utility and service lines, Outdoor sports and leisure activities, recreational activities, Other forms of pollution
A125	Eurasian Coot	*Fulica atra atra*	C03, G01, H01	Renewable abiotic energy use, Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish)
A054	Northern Pintail	*Anas acuta*	C03, F01, F03, G01, H01, H03, H07, J02	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Marine water pollution, Other forms of pollution, Human induced changes in hydraulic conditions
A069	Red-Breasted Merganser	*Mergus serrator*	C03, F01, F02, G01, H03	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution
A149	Dunlin	*Calidris alpina*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A157	Bar-Tailed Godwit	*Limosa lapponica*	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A059	Common Pochard	*Aythya ferina*	C03, F03, G01, H01, H07, M02	Renewable abiotic energy use, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Other forms of pollution, Changes in biotic conditions
A052	Teal	*Anas crecca*	Xxp/Xxt	No threats and pressures identified by the NPWS
A053	Mallard	*Anas platyrhynchos*	Xxp/Xxt	No threats and pressures identified by the NPWS
A160	Eurasian Curlew	*Numenius arquata arquata*	C03, F01, F02, G01, H03, J02, J03	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A056	Northern Shoveler	*Anas clypeata*	C03, F03, G01, H01, H03, H07	Renewable abiotic energy use, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Marine water pollution, Other forms of pollution
A395	Greater White-Fronted Goose	*Anser albifrons flavirostris*	A02, A04, A06, A11, B01, C03, D02, D05, F01, F03, G01, H03, H07, K03, M01, M02	Modification of cultivation practices, Grazing, Annual and perennial non-timber crops, Agriculture activities not referred to above, Forest planting on open ground, Renewable abiotic energy use, Utility and service lines, Improved access to site, Marine and Freshwater Aquaculture, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Marine water pollution, Other forms of pollution, Interspecific faunal relations, Changes in abiotic conditions, Changes in biotic conditions
A098	Merlin	*Falco columbarius*	A02, B01, B02, C03, M02	Modification of cultivation practices, Forest planting on open ground, Forest and Plantation management & use, Renewable abiotic energy use, Changes in biotic conditions
A103	Peregrine Falcon	*Falco peregrinus peregrinus*	C03, F03, J03, M02	Renewable abiotic energy use, Hunting and collection of wild animals (terrestrial), Other Ecosystem Modifications, Changes in biotic conditions
A050	Eurasian Wigeon	*Anas penelope*	C03, F01, F03, G01, H01, H03, H07, I01, J02, J03	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Hunting and collection of wild animals (terrestrial), Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Marine water pollution, Other forms of pollution, Invasive non-native species, Human induced changes in hydraulic conditions, Other Ecosystem Modifications
A004	Little Grebe	*Tachybaptus ruficollis ruficollis*	Xxp/Xxt	No threats and pressures identified by the NPWS

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