NATURA IMPACT REPORT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

OF THE

KILDARE COUNTY DEVELOPMENT PLAN 2017-2023

IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: Kildare County Council

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Section 1 Introduction

1.1 Background

This is the Natura Impact Report in support of the Appropriate Assessment (AA) of the Kildare County Development Plan 2017-2023 in accordance with the requirements of Article 6(3) of the EU Habitats Directive¹. This report is divided into the following five sections:

Section 1 Introduction

Section 2 Stage 1 Screening

Section 3 Stage 2 Appropriate Assessment

Section 4 Mitigation Measures

Section 5 Conclusion

1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community Interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are candidate Special Areas of Conservation (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (Directive 2009/147/EC - codified version of Directive 79/409/EEC as amended), hereafter referred to as European sites.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites. Article 6(3) establishes the requirement for AA:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In 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.

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011. These new regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and

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¹ Directive 92/43/EEC

Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.

1.3 Stages of Appropriate Assessment

This Appropriate Assessment has been prepared in accordance with the following guidance:

- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010.
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2002.
- Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC: European Commission, 2000

Appropriate Assessment comprises up to four stages:

Stage One: Screening

The process which identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of Alternative Solutions

The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

In the case of this Natura Impact Report, it is found that the Plan only requires Stage 1 and Stage 2 assessment.

Section 2 Stage 1 Screening

2.1 Description of the Kildare County Development Plan

2.1.1 Introduction

The Kildare County Development Plan (CDP) 2017-2023 sets out the overall strategy for the proper planning and sustainable development of County Kildare for the Plan period and beyond. The CDP has been prepared in accordance the Planning and Development Act 2000, as amended. The Plan relates to the whole functional area of Kildare County Council.

The CDP will set out a strategic spatial framework for the proper planning and sustainable development of County Kildare for the period between 2017 and 2023. While the CDP is in place for a six-year period, it is framed having regard to the long-term development objectives of the County beyond 2023.

The CDP in the main focuses on 'big picture' planning issues. The Plan is not a 'spending plan', however it sets a framework within which developments could be undertaken, in the event that the public or private sector has the finance to develop.

The CDP provides for, and controls, the physical, economic and social development of the County, in the interests of the overall common good and in compliance with environmental controls. It includes a set of development objectives and standards, which set out where land is to be developed, and for what purposes (e.g. housing, shopping, schools, employment, open space, amenity, conservation etc.). It informs decisions on where public services such as roads and water services are to be provided, and affects the type of buildings that can be constructed and the use to which land can be put. It affects many facets of daily economic and social life, in terms of where you can live, what services and facilities are available and where job opportunities are to be sited.

2.1.2 Structure of the Plan

The CDP consists of a written statement and maps that indicate the development objectives for County Kildare. The written statement is accompanied by a series of schedules and maps.

The Plan is set out in a written statement with accompanying maps in two volumes as follows:

- Volume One Chapters 1 -17 and Appendices
- Volume Two Land Use Plans

These two volumes are accompanied by SEA, AA and SFRA documents.

Chapter 1 sets out the introduction and strategic context for the plan.

Chapters 2 and 3 set out the core strategy and settlement strategy for County Kildare.

Chapters 4-14 set out detailed policies and objectives under a range of specific topic headings which the County Council seeks to achieve over the six-year life of the Plan e.g. housing, economic development, retail, infrastructure, rural development, social and community, heritage and landscape.

Chapters 15 and 16 outline urban and rural design guidance to promote guality developments.

Chapter 17 sets out development management standards to be applied to future development proposals in the county. The purpose of these standards and objectives is to guide and assist the formulation of development proposals and to regulate the impact of development on the environment.

Appendices which are part of Volume I include the Housing Strategy, Record of Monuments and Places, Record of Protected Structures and Scenic Routes.

Volume Two consists of the land use plans for the small towns, environs areas, villages and rural settlements in Kildare.

2.1.3 Aim of Core Strategy

The aim of the Core Strategy is "to respond in a coherent sustainable, spatial fashion to the challenges facing the county, while building on its strengths and providing a more focused approach to planning for future growth. The Core Strategy facilitates a more consolidated compact urban form; maintenance and improvement of a sustainable economic base; creation of sustainable and integrated communities together with the balancing of our natural and built environment with sustainable and appropriate development."

2.1.4 Villages, Small Towns and Environs

As mentioned in Section 2.1.2 above, Volume Two contains plans for certain villages, small towns and environs.

Village plans are included for: Allenwood, Ballitore, Ballymore Eustace, Straffan, Caragh, Coill Dubh/Coolearagh, Crookstown, Johnstown, Johnstownbridge, Kildangan, Kilmeague, Moone, Robertstown, Suncroft and Timolin.

Settlement plans are included for: Allen, Ardclough, Brannockstown, Broadford, Brownstown, Calverstown, Cutbush, Kilberry, Kilmead, Kilteel, Maddenstown, Maganey / Levitstown, Milltown, Narraghmore, Nurney, Rathcoffey, Staplestown and Twomilehouse.

Town plans are included for: Athgarvan, Castledermot, Derrinturn, Kill, Prosperous, Rathangan.

Environs plans are included for: Blessington Environs, Kilcock Environs and Ladytown Environs.

2.1.5 Lower Tier Plans

Separate Local Area Plans (LAPs) are in place, or will be in place, for the following towns: Sallins, Celbridge/Castletown, Leixlip/Collinstown, Monasterevin, Kilcock, Kilcullen, Newbridge, Maynooth, Kildare and Clane. These LAPs are reviewed and made under Sections 18, 19 and 20 of the Planning and Development Act, and as such do not form part of the CDP. However, the CDP does provide the key parameters for these LAPs such the future population and housing targets and sets out the broad strategy for the future economic and social development of these towns.

Town Development Plans providing for the sustainable development of the towns of Naas and Athy are also in place and Local Area Plans will also be prepared for these settlements.

2.1.6 Relationship with other Relevant Plans and Strategies

The Kildare CDP is consistent with higher order strategic policy documents including the 'National Spatial Strategy (NSS) 2002-2020', 'Regional Planning Guidelines for the Greater Dublin Area (GDA) 2010-2022', and the National Transport Authority's 'Transportation Strategy for the Greater Dublin Area 2016-2035'.

Other national plans, policies or strategies that influence the objectives of the CDP are considered within the main chapters of the CDP where they relate to a particular topic or land use.

There are a number of environmental considerations that have a significant bearing on the overall development objectives of the Plan. Under the Habitats and Birds Directive and the Strategic Environmental Assessment Directive, both an AA and a SEA were carried out for the entire Plan

including the written statement, maps and objectives, and also appendices. The Plan had regard to both assessments with resultant changes being made to the Plan throughout the plan process.

In addition, the CDP has had regard to other relevant environmental legislation. Such legislation is outlined in the relevant chapters of the Plan and includes, but is not exclusive to, the Water Framework Directive, Floods Directive, Waste Water Treatment Directive, the Wildlife Acts, National Monuments Acts and Waste Management Acts. It is considered that the development objectives in the Plan are consistent, in as far as practicable, with the conservation and protection of the environment.

2.1.7 Environmental Protection Objectives

The Plan is subject to a number of high level environmental protection policies and objectives with which it must comply.

Examples of Environmental Protection Objectives include:

- EU Habitats Directive the aim of which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States
- Water Framework Directive the aim of which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status by 2015.

2.2 European Sites in and within 15 km (and beyond this distance where relevant) of the Plan Area

2.2.1 SACs and SPAs

This section of the screening process describes the European sites within a 15 km potential zone of impact of the Plan Area. The distance of 15 km is currently recommended in the DoE document *Appropriate Assessment of Plans and Projects - Guidance for Planning Authorities*, however, sites beyond this distance should also be considered where there are hydrological linkages or other pathways that extend beyond 15 km thereby ensuring that all potentially affected European sites are included in the screening process. A map indicating the locations of the sites is presented in Figure 1.

Based on the above approach, a total of 19 European sites, comprising 16 SACs, and 3 SPAs require consideration in the AA process.

Table 2.1 and Table 2.2 below list the European sites that are a) within County Kildare, b) within 15km (and beyond this distance where relevant) of the County boundary. The qualifying features of each site are also presented (see 2.2.1.1 below). In order to determine the potential for impacts from the Plan, information on the qualifying features, known vulnerabilities and threats to site integrity pertaining to all potentially affected European sites was reviewed and is presented in Appendix I. This information was derived from a variety of sources, including:

- Ireland's Article 17 Report to the European Commission "Status of EU Protected Habitats and Species in Ireland" (NPWS, 2013);
- Site Synopses; and
- NATURA 2000 Standard Data Forms.

Since the conservation objectives for the European sites focus on maintaining the favourable conservation condition of the qualifying features of each site, the screening process concentrated on assessing the potential implications of the implementing the Plan against the qualifying features of each site.

2.2.2 Qualifying Interests (QIs) and Special Conservation Interests (SCIs)

Those relevant cSAC sites are selected for a range of different habitats and species listed on Annex I and Annex II of the habitats directive, known as Qualifying Interests (QIs). In summary, those QIs for which cSAC sites are selected are presented in Table 2.1 and Table 2.2.

Those SPA sites listed have been selected for the protection of endangered species of wild birds. Each SPA has been selected for one or a combination of the following:

- Listed rare and vulnerable species (as listed on Annex I of EU Birds Directive 2009/147/EC);
- Regularly occurring migratory species, such as ducks, geese, and waders;
- Wetlands, especially those of international importance, which attract large numbers of migratory birds each year.

The features for which SPAs have been selected are referred to as Special Conservation Interests (SCIs). Those SCIs for which sites are selected are presented in Table 2.1 and Table 2.2 below.

2.2.3 Site-Specific Conservation Objectives

Site-specific conservation objectives (SSCOs) have been prepared for a number of European Sites. These detailed SSCOs aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a **species** can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a **habitat** can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable'.

Generic Conservation Objectives for cSACs have been provided as follows:

• To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

One generic Conservation Objective has been provided for SPAs as follows:

• To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.

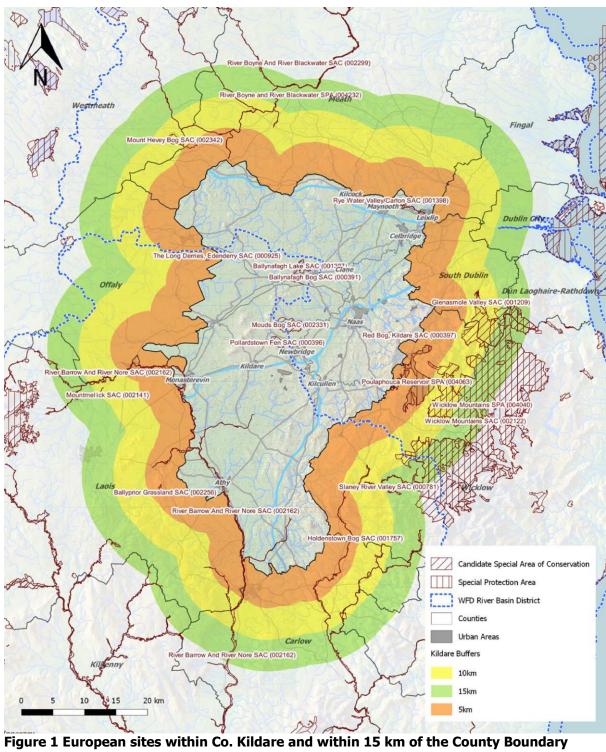


Table 2.1 European Sites in County Kildare and their qualifying features

(listed according to their NPWS site code, see Figure 1 for corresponding locations)

Site	Site Name	Qualifying features (QIs or SCIs)
Code		
391	Ballynafagh Bog SAC	 Active raised bogs Degraded raised bogs still capable of natural regeneration
396	Pollardstown Fen SAC	 Depressions on peat substrates of the Rhynchosporion Calcareous fens with Cladium mariscus and species of the Caricion
		davallianae • Petrifying springs with tufa formation (Cratoneurion)
		Alkaline fens Vertigo geyeri
		Vertigo angustior
207	D I D I I'll CAC	Vertigo moulinsiana
397	Red Bog, Kildare SAC	 Transition mires and quaking bogs Natural euthrophic lakes with Magnopotamion or Hydrocharition-type
		vegetation
		Active raised bogs
1387	Ballynafagh Lake SAC	Alkaline fens
		Transition mires and quaking bogs Vertice moulinging.
		Vertigo moulinsianaEuphydryas aurinia
1398	Rye Water Valley/Carton	Petrifying springs*
1550	SAC	Desmoulin's whorl snail (Vertigo moulinsiana);
		Narrow-mouthed whorl snail (Vertigo angustior)
2162	River Barrow And River	Estuaries
	Nore SAC	 Mudflats and sandflats not covered by seawater at low tide
		Salicornia and other annuals colonising mud and sand
		Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
		Mediterranean salt meadows (Juncetalia maritimi)
		 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
		European dry heaths
		Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
		Petrifying springs with tufa formation (Cratoneurion)
		Old sessile oak woods with Ilex and Blechnum in the British Isles
		Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion,
		Alnion incanae, Salicion albae)
		Spartina swards (Spartinion maritimae) Allie abod (Aleas aleas)
		Allis shad (Alosa alosa) Atlantic salmon (Salmo salar)
		Brook lamprey (Lampetra planeri)
		Desmoulin's whorl snail (Vertigo moulinsiana)
		Freshwater Pearl Mussel (Margaritifera margaritifera)
		Killarney Fern (Trichomanes speciosum)
		Freshwater Pearl Mussel (Margaritifera durrovensis)
		Otter (Lutra lutra)
		 European river lamprey (Lampetra fluviatilis) Twait shad (Alosa fallax)
		White clawed crayfish (Austropotamobius pallipes)
2331	Mouds Bog SAC	Active raised bogs
		Degraded raised bogs still capable of natural regeneration
		Depressions on peat substrates of the Rhynchosporion
4063	Poulaphouca Reservoir SPA	Greylag Goose (Anser anser)
		Lesser Black-backed Gull (Larus fuscus)

^{*}Indicates priority habitat

Table 2.2 European Sites (including Qualifying Features) within 15 km (and beyond this distance where relevant) of the Boundary of County Kildare

(listed according to their NPWS site code)

Site Code	Site Name	Location (m from County border)	Qualifying features (QIs or SCIs)
781	Slaney River Valley SAC	1640	 Estuaries; Floating river vegetation; Old oak woodlands; Residual alluvial forests*; Tidal mudflats; Atlantic Salmon (Salmo salar); Brook Lamprey (Lampetra planeri); Common Seal (Phoca vitulina); Freshwater Pearl Mussel (Margaritifera margaritifera); Otter (Lutra lutra); River Lamprey (Lampetra fluviatilis); Sea Lamprey (Petromyzon marinus); Twaite Shad (Alosa fallax)
925	The Long Derries, Edenderry SAC	610	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)
1209	Glenasmole Valley SAC	6480	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites) Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) Petrifying springs with tufa formation (Cratoneurion)
1757	Holdenstown Bog SAC	3040	Transition mires and quaking bogs
2122	Wicklow Mountains SAC	3320	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea Natural dystrophic lakes and ponds Northern Atlantic wet heaths with Erica tetralix European dry heaths Alpine and Boreal heaths Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) Blanket bogs (* if active bog) Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsetalia ladani) Calcareous rocky slopes with chasmophytic vegetation Siliceous rocky slopes with chasmophytic vegetation Old sessile oak woods with Ilex and Blechnum in the British Isles Lutra lutra
2141	Mountmellick SAC	8730	Vertigo moulinsiana
2256	Ballyprior Grassland SAC	2790	 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)
2299	River Boyne and River Blackwater SAC	390	 Alkaline fens Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Lampetra fluviatilis Salmo salar Lutra lutra
2342	Mount Hevey Bog SAC	4130	 Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion
4040	Wicklow Mountains SPA	5720	Merlin Falco columbariusPeregrine Falco peregrinus
4232	River Boyne and River Blackwater SPA	370	Kingfisher Alcedo atthis

Site Code	Site Name	Location (m from County border)	Qualifying features (QIs or SCIs)
4080	Boyne Estuary SPA	>15000	 Shelduck Tadorna tadorna Oystercatcher Haematopus ostralegus Golden Plover Pluvialis apricaria Grey Plover Pluvialis squatarola Lapwing Vanellus vanellus Knot Calidris canutus Sanderling Calidris alba Black-tailed Godwit Limosa limosa Redshank Tringa totanus Turnstone Arenaria interpres Little Tern Sterna albifrons
1957	Boyne Coast and Estuary SAC	>15000	 Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Mediterranean salt meadows (Juncetalia maritimi) Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes)
000206	North Dublin Bay SAC	>15000	Atlantic salt meadows Drift lines Dune slack Embryonic shifting dunes Fixed dunes (grey dunes)* Marram dunes (white dunes) Mediterranean salt meadows Salicornia mud Tidal mudflats Petalwort (Petalophyllum ralfsii)
000210	South Dublin Bay SAC	>15000	Tidal mudflats
004006	North Bull Island SPA	>15000	Bar-tailed Godwit (Limosa lapponica) Golden Plover (Pluvialis apricaria) Black-headed Gull (Larus ridibundus) Black-tailed Godwit (Limosa limosa) Curlew (Numenius arquata) Dunlin (Calidris alpina) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Pintail (Anas acuta) Redshank (Tringa tetanus) Sanderling (Calidris alba) Shelduck (Tadorna tadorna) Shoveler (Anas clypeata) Teal (Anas cracca) Turnstone (Arenaria interpres) Wetlands & Waterbirds
004024	South Dublin Bay and River Tolka Estuary SPA	>15000	 Arctic Tern (Sterna paradisaea) Bar-tailed Godwit (Limosa lapponica) Common Tern (Sterna hirundo) Roseate Tern (Sterna dougallii) Black-headed Gull (Larus ridibundus) Dunlin (Calidris alpina) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Redshank (Tringa tetanus) Ringed Plover (Charadrius hiaticula) Sanderling (Calidris alba) Wetlands & Waterbirds

2.3 Assessment Criteria

2.3.1 Is the Plan Necessary to the Management of European Sites?

Under the Habitats Directive, Plans that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the Plan, even if this might result in positive or beneficial effects for a site(s).

The Kildare CDP includes measures that will benefit the protection of European designated sites, however its primary purpose is not the nature conservation management of the sites, but to provide for development. Therefore, the Plan is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

2.3.2 Elements of the Plan with Potential to Give Rise to Significant Effects

This screening assessment process identifies whether the changes brought about by the Plan are likely to cause any direct, indirect or secondary impacts (either alone or in combination with other plans or projects) on European Sites. During this assessment, a number of factors were taken into account including the sites' conservation objectives and known threats. The overall aim of the assessment is to attempt to predict the consequences that can be reasonably foreseen by implementation of a policy or objective.

It should be noted that the objectives that make up the Plan are generally strategic in nature and therefore the impact assessment can at best be generalised.

In general, any development that may result from implementation of the Plan, such as construction of housing, roads, rail, water and wastewater infrastructure, gas, electricity, provision of tourism facilities and telecommunications infrastructure could lead to significant effects depending on where development is sited, the scale and characteristics of development and types and quantities of emissions. The individual elements of the Plan that may result in impacts on European sites have been identified as including the following:

- Chapter 3; Settlement Strategy:
 - Increased populations in towns throughout the county
- Chapter 4; Housing:
 - New housing development throughout the county
- Chapter 5; Economic Development, Enterprise and Tourism
 - Promotion and facilitation of economic development concentrated in the major settlements in the County
 - Also, Retail and Commercial Development, Regeneration, Rural Development, Agriculture, Energy Production and Tourism and Recreation
- Chapter 6; Movement and Transportation:
 - o Provisions relating to walking and cycling, roads and aviation
- Chapter 7; Infrastructure:
 - o Provisions including those relating to walking and cycling, roads and aviation
- Chapter 8; Energy and Communications:
 - Provisions including those relating to energy generation and supply and telecommunications
- Chapter 9; Retail
 - The promotion of new retail developments and associated infrastructure
 - o The promotion of and encouragement of tourism retail
- Chapter 10; Rural Development

- o Including provisions relating to the development of agriculture, tourism, forestry, green energy, mineral resources/extractive industry, boglands and rural enterprises
- Chapter 11; Social Community and Cultural Development
 - o Including the development of social, community and cultural facilities
- Chapter 13; Natural Heritage & Green Infrastructure
 - o Including the development of green infrastructure
- Chapter 14; Landscape, Recreation and Amenity
 - o Including the development of recreational areas and amenities
- Volume 2; Small Towns, Environs, Villages and Settlement Plans
 - o 15 village plans, 18 rural settlement plans, six small town plans and three environs plans

Development within the County's various settlements would have the potential to directly, indirectly and cumulatively impact upon European Sites, if unmitigated. Detailed, overarching mitigating provisions contained within the County Development Plan will help to ensure that effects on European sites do not occur throughout the County including within its various settlements.

Towns with European Sites within or nearby and associated mitigation are identified on Table 2.3 below.

Some of these towns (such as Athy, Monasterevin, Newbridge, Maynooth and Leixlip/ Collinstown) are subject to their own Plans which are separate to the CDP. These Plans are subject to their own assessment requirements and are required to demonstrate compliance with the Habitats Directive.

In addition to the detailed, overarching mitigating County Development Plan provisions, more detailed measures have been integrated into Plans for Castledermot and Prosperous.

Table 2.3 Kildare towns with European Sites within or nearby and mitigation

Town	Zoning in County Plan?	European Sites are located within/ adjacent/ nearby	Mitigation ²
Athy	No zoning included in CDP, Athy TDP in force	River Barrow and River Nore cSAC through centre of town	The Athy Town Development Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites
Monasterevin	No zoning included in CDP, LAP in force	River Barrow and River Nore cSAC through centre of town	The Monasterevin Local Area Plan is subject to its own SEA and AA process which are required to help to ensure that the Plan does not affect European Sites
Newbridge	No zoning included in CDP, LAP in force	Pollardstown Fen to east of Plan area; Mouds Bog further to north	The Newbridge Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites
Maynooth	No zoning included in CDP, LAP in force	Rye Water Valley/Carton cSAC	The Maynooth Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites
Leixlip/ Collinstown	No zoning included in CDP, LAP in preparation	Rye Water Valley/Carton cSAC through centre of town	The Leixlip/Collinstown Local Area Plan is subject to its own SEA and AA process which are required to help to ensure that the Plan does not affect European Sites
Kildare	No zoning included in CDP, LAP in force	Pollardstown Fen to west	The Kildare Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites

² In addition to detailed, overarching mitigating provisions contained within the Draft County Development Plan.

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Town	Zoning in County Plan?	European Sites are located within/ adjacent/ nearby	Mitigation ²
Maganey/ Levitstown	No zoning, but designated as a rural settlement in CDP with development strategy in force	River Barrow and River Nore cSAC to immediate west of Plan area	Detailed, overarching mitigating provisions contained within the County Development Plan
Castledermot	Yes, zoning included in Plan	River Barrow and River Nore cSAC through west and south of Plan area	Detailed, overarching mitigating provisions contained within the County Development Plan. Also Plan Objective CD 26: To conserve and protect riparian (beside rivers) corridors. New development will not be permitted within the SAC boundary or a minimum of 10m from either side of the River Lerr watercourse measured from the top of the bank. The following from the Castledermot Small Town Plan requires and AA when necessary: Any development proposal within the vicinity of or potentially having an effect on a designated site (e.g. the River Lerr, which is designated under the River Barrow and River Nore SAC) will be subject to an Appropriate Assessment under the Habitats Directive in consultation with the National Parks and Wildlife Service (NPWS). Policies applicable to designated sites and species are contained in chapter 13 of the CDP.
Prosperous	Yes, zoning included in Plan	Ballynafagh Bog cSAC to immediate north west of Plan area	Detailed, overarching mitigating provisions contained within the County Development Plan. Also, Plan PR 8: To reserve land for a proposed link road to the north west and north east of the town between the Ballynafagh Road and the R403. Such a link road will be subject to an Appropriate Assessment under the Habitats Directive in consultation with the National Parks and Wildlife Service (NPWS).
Clongorey/ Blacktrench	No zoning included as Clongorey/ Blacktrench is a rural node	Mouds Bog cSAC	Detailed, overarching mitigating provisions contained within the County Development Plan
Milltown	No zoning, but designated as a rural settlement in CDP with development strategy in force	Pollardstown cSAC and Mouds Bog - nearby	Detailed, overarching mitigating provisions contained within the County Development Plan
Ballyroe	No zoning included as Ballyroe is a rural node	River Barrow and River Nore cSAC to west of Plan area	Detailed, overarching mitigating provisions contained within the County Development Plan

2.3.3 Direct, Indirect or Secondary Impacts

As outlined in the European Commission Environment DG document "Assessment of plans and projects significantly affecting European Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC", impacts that could potentially occur through the implementation of the plan can be categorised under a number of headings:

- Loss / reduction of habitat area (e.g. due to the development of new projects);
- Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects);
- Habitat or species fragmentation;

- Reduction in species density;
- Changes in key indicators of conservation value such as changes in water quality / quantity (e.g., alteration to drainage regime in sensitive wetland areas; run-off of pollutants during construction and operation of developments).

In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity of the European sites, secondly, the Plan and the potential effects associated with its implementation on the sites were considered. In summary, it is concluded that there is potential for significant impacts, if unmitigated, on 16 European sites. The potential impacts associated with the provisions of the Plan are discussed in the following sections.

2.3.3.1 Loss / Reduction of Habitat Area

Direct habitat loss is caused where there is complete removal of a habitat type. Habitat loss can also occur through the reduction of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination, or physical alteration.

Loss or reduction of habitat area may occur through the construction of new accommodation facilities, tourism facilities/infrastructure, wind energy developments, new road links, etc. Direct loss or reduction of habitat area will be confined to works which take place within or in very close proximity to a European site(s).

2.3.3.2 Disturbance to Key Species

Key species are defined as those listed on the Annexes of the EU Habitats Directive and Birds Directive for which sites are designated. Disturbance to species supported by a European site is likely to be amplified where there is an increase in activity levels from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, light, emanating from construction and / or operational activities.

In relation to the activities provided for by the Plan, disturbance to key species could result from construction associated with any new transport infrastructure, wind energy developments, tourism developments, quarrying activities, etc. Similarly, the use of transport infrastructure, wind energy, and quarrying during the operational phase could also give rise to disturbance where they are in proximity to a European site(s).

Any significant increases in traffic caused by increased retail, commercial, or tourism requirements could also lead to increased disturbance to sensitive species where transport infrastructure is located within or close by relevant Europeans sites.

2.3.3.3 Habitat / Species Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of habitats resulting in interference with existing ecological units. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors when construction may introduce a barrier to the free movement of species from one area of habitat to another. Habitat / species fragmentation may arise from the construction of new transport infrastructure required during the development of the Plan, and is particularly relevant to linear developments such as road and rail.

2.3.3.4 Reduction in Species Density

Reduction in species density may result from loss / reduction of habitat area, disturbance, or fragmentation, either individually or in combination. In addition, changes in habitat quality could lead to reductions in populations of sensitive species.

In relation to the Plan, reductions in species density could also occur where collision risks are introduced to previously undeveloped areas where vulnerable species may be present. The development of overhead power lines, wind energy could present a collision hazard to vulnerable bird species. The development of rail and roads in particularly sensitive locations could result in collision between vehicles and wildlife.

2.3.3.5 Changes in Key Indicators of Conservation Value

The key indicators of conservation value for sites likely to be affected by the implementation of the Plan include surface water and groundwater quality and quantity.

Any deterioration in water quality within surface and ground water dependant ecosystems can lead to direct and indirect impacts on a range of habitats and species of conservation importance. Similarly, changes in water quantity (water table height; flow regime; flow rates etc) can also impact on many habitats and species that are associated with freshwater and marine European sites.

In relation to the Plan, the main sources of such impacts may include:

- potential discharge of silt laden waters or other pollutants from construction related projects (road works, rail development, afforestation, etc);
- potential discharge of contaminated (hydrocarbons) runoff from transport infrastructure during operation phase;
- hydrological alteration of groundwater / surface water volume or flows due to construction activities or changes in land-use; and
- amplified pressures on watercourse from increased tourism activity along water ways.

2.4 Outcome of screening

This section documents the final stage of the screening process. It has used the information collected on the sensitivity of each European Site and describes any likely significant effects of the implementation of the Plan. This assumes the absence of any controls, conditions, or mitigation measures.

In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity of each European site, secondly, the individual elements of the Plan and the potential effect they may cause on each site were considered.

Effects on sites outside of County Kildare are likely to be of an indirect nature, such as extensive drainage or eutrophication of watercourses in County Kildare affecting surface or groundwater dependant sites downstream, rather than direct habitat loss or disturbance of species.

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

- where it can be shown that there are no hydrological links between activities in County Kildare and the site to be screened
- where the site is located at such a distance from County Kildare that impacts are not foreseen
- where known threats or vulnerabilities at a site cannot be linked to potential impacts that may arise from implementation of the Plan.

The outcome of screening of individual European Sites considered in this assessment is presented in Table 2.4.

Table 2.4: Screening of European sites within County Kildare

(listed according to their NPWS site code, see Figure 1 for corresponding locations)

Site Code	Site Name	Location in relation to the Plan	Qualifying features (QIs or SCIs)	Potential Impacts resulting from Plan?	Stage II AA?
391	Ballynafagh Bog SAC	Within Plan Area	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
396	Pollardstown Fen SAC	Within Plan Area	 Calcareous fens with Cladium mariscus and species of the Caricion davallianae Petrifying springs with tufa formation (Cratoneurion) Alkaline fens Vertigo geyeri Vertigo angustior Vertigo moulinsiana 	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
397	Red Bog, Kildare SAC	Within Plan Area	Transition mires and quaking bogs Natural euthrophic lakes with Magnopotamion or Hydrocharition-type vegetation Active raised bogs	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
1387	Ballynafagh Lake SAC	Within Plan Area	Alkaline fens Vertigo moulinsiana Euphydryas aurinia Transition mires and quaking bogs	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
1398	Rye Water Valley/Carton SAC	Within Plan Area	Petrifying springs* Desmoulin's whorl snail (Vertigo moulinsiana); Narrow-mouthed whorl snail (Vertigo angustior)	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
2162	River Barrow And River Nore SAC	Within Plan Area	 Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Mediterranean salt meadows (Juncetalia maritimi) Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation European dry heaths Hydrophilous tall herb fringe communities of plains and of the 	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes

Site Code	Site Name	Location in relation	Qualifying features (QIs or SCIs)	Potential Impacts resulting from	Stage II AA?
		to the Plan	montane to alpine levels Petrifying springs with tufa formation (Cratoneurion) Old sessile oak woods with Ilex and Blechnum in the British Isles Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Spartina swards (Spartinion maritimae Allis shad (Alosa alosa) Atlantic salmon (Salmo salar) Brook lamprey (Lampetra planeri) Desmoulin's whorl snail (Vertigo moulinsiana) Freshwater Pearl Mussel (Margaritifera margaritifera) Killarney Fern (Trichomanes speciosum) Freshwater Pearl Mussel (Margaritifera durrovensis) Otter (Lutra lutra) European river lamprey (Lampetra fluviatilis) Twait shad (Alosa fallax) White clawed crayfish (Austropotamobius pallipes)	Plan?	
2331	Mouds Bog SAC	Within Plan Area	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
4063	Poulaphouca Reservoir SPA	Within Plan Area	Greylag Goose (Anser anser) Lesser Black-backed Gull (Larus fuscus)	Various types of developments provided for by the County Development Plan could impact upon this site, including those for which are not exclusively spatially specific	Yes
781	Slaney River Valley SAC	1640m from Plan Area	 Estuaries; Floating river vegetation; Old oak woodlands; Residual alluvial forests*; Tidal mudflats; Atlantic Salmon (Salmo salar); Brook Lamprey (Lampetra planeri); Common Seal (Phoca vitulina); Freshwater Pearl Mussel (Margaritifera margaritifera); Otter (Lutra lutra); River Lamprey (Lampetra fluviatilis); Sea Lamprey (Petromyzon marinus); Twaite Shad (Alosa fallax) 	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
925	The Long Derries, Edenderry SAC	610m from Plan Area	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no	No

Site Code	Site Name	Location in relation	Qualifying features (QIs or SCIs)	Potential Impacts resulting from	Stage II AA?
		to the Plan		Plan? significant effects are	
1209	Glenasmole Valley SAC	6480m from Plan Area	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites) Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) Petrifying springs with tufa formation (Cratoneurion)	foreseen. Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
1757	Holdenstown Bog SAC	3040m from Plan Area	Transition mires and quaking bogs	Considering the QI of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
2122	Wicklow Mountains SAC	3320m from Plan Area	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea Natural dystrophic lakes and ponds Northern Atlantic wet heaths with Erica tetralix European dry heaths Alpine and Boreal heaths Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) Blanket bogs (* if active bog) Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsetalia ladani) Calcareous rocky slopes with chasmophytic vegetation Siliceous rocky slopes with chasmophytic vegetation Old sessile oak woods with Ilex and Blechnum in the British Isles	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
2141	Mountmellick SAC	8730m from Plan Area	Vertigo moulinsiana	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
2256	Ballyprior Grassland SAC	2790m from Plan Area	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites)	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no	No

Site Code	Site Name	Location in relation to the Plan	Qualifying features (QIs or SCIs)	Potential Impacts resulting from Plan?	Stage II AA?
		to the Plan		significant effects are	
2299	River Boyne and River Blackwater SAC	390m from Plan Area	Alkaline fens Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Lampetra fluviatilis Salmo salar Lutra lutra	foreseen. Considering the QI of this site and its proximity to the Plan Area, and the presence of a hydrological link, there is potential for adverse effects if unmitigated.	Yes
2342	Mount Hevey Bog SAC	4130m from Plan Area	Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
4040	Wicklow Mountains SPA	5720m from Plan Area	Merlin Falco columbarius Peregrine Falco peregrinus	Considering the QIs of this site and its proximity to the Plan Area, and the absence of a hydrological link, no pathways for adverse effects exist and therefore no significant effects are foreseen.	No
4232	River Boyne and River Blackwater SPA	370m from Plan Area	Kingfisher Alcedo atthis	Considering the QI of this site and its proximity to the Plan Area, and the presence of a hydrological link, there is potential for adverse effects if unmitigated.	Yes
4080	Boyne Estuary SPA	>15000m from Plan Area	Shelduck Tadorna tadorna Oystercatcher Haematopus ostralegus Golden Plover Pluvialis apricaria Grey Plover Pluvialis squatarola Lapwing Vanellus vanellus Knot Calidris canutus Sanderling Calidris alba Black-tailed Godwit Limosa limosa Redshank Tringa totanus Turnstone Arenaria interpres Little Tern Sterna albifrons	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverse ieffects if unmitigated.	Yes
1957	Boyne Coast and Estuary SAC	>15000m from Plan Area	 Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Mediterranean salt meadows (Juncetalia maritimi) Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes) Fixed coastal dunes with herbaceous 	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverse effects if unmitigated.	Yes

Site Code	Site Name	Location in relation	Qualifying features (QIs or SCIs)	Potential Impacts resulting from	Stage II AA?
Code		to the Plan		Plan?	II AA:
			vegetation (grey dunes)		
0206	North Dublin Bay SAC	>15000m from Plan Area	 Atlantic salt meadows Drift lines Dune slack Embryonic shifting dunes Fixed dunes (grey dunes)* Marram dunes (white dunes) Mediterranean salt meadows Salicornia mud Tidal mudflats Petalwort (Petalophyllum ralfsii) 	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverse effects if unmitigated.	Yes
0210	South Dublin Bay SAC	>15000m from Plan Area	• Tidal mudflats	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverseeffects if unmitigated.	Yes
4006	North Bull Island SPA	>15000m from Plan Area	Bar-tailed Godwit (Limosa lapponica) Golden Plover (Pluvialis apricaria) Black-headed Gull (Larus ridibundus) Black-tailed Godwit (Limosa limosa) Curlew (Numenius arquata) Dunlin (Calidris alpina) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Pintail (Anas acuta) Redshank (Tringa tetanus) Sanderling (Calidris alba) Shelduck (Tadorna tadorna) Shoveler (Anas clypeata) Teal (Anas cracca) Turnstone (Arenaria interpres) Wetlands & Waterbirds	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverse effects if unmitigated.	Yes
4024	South Dublin Bay and River Tolka Estuary SPA	>15000m from Plan Area	Arctic Tern (Sterna paradisaea) Bar-tailed Godwit (Limosa lapponica) Common Tern (Sterna hirundo) Roseate Tern (Sterna dougallii) Black-headed Gull (Larus ridibundus) Dunlin (Calidris alpina) Grey Plover (Pluvialis squatarola) Knot (Calidris canutus) Light-bellied Brent Goose (Branta bernicla hrota) Oystercatcher (Haematopus ostralegus) Redshank (Tringa tetanus) Ringed Plover (Charadrius hiaticula) Sanderling (Calidris alba) Wetlands & Waterbirds	Considering the QIs of this site and the presence of a hydrological link, taking a precautionary approach, there is potential for adverse effects if unmitigated.	Yes

2.5 Other Plans and Programmes

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combination with the plan or project, have the potential to adversely impact upon European sites. Table 2.5 lists the plans or projects that may interact with the Plan to cause in-combination effects to European sites. The plans or projects are listed according to a spatial hierarchy of International, National, Regional/Local Projects and Plans.

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Plan, it is recognised that the identification of cumulative impacts is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the project-level.

Table 2.5 Plans & Projects Likely to Cause In-Combination Effects with the Kildare CDP

Directive	Purpose	Interactions resulting in Cumulative
International		Impacts
EU Water Framework Directive (2000/60/EC)	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Freshwater Fish Directive (78/659/EEC)	Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Groundwater Directive (2006/118/EC)	This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure such as flood walls or flood defences. Avoidance on, or near protected areas should be implemented or where this is not possible, favouring infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan.
Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Urban Wastewater Treatment Directive (91/271/EEC)	The primary objective is to protect the environment from the adverse effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable disposal of sludge arising from wastewater treatment.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Sewage Sludge Directive (86/278/EEC)	Objective is to encourage the appropriate use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Integrated Pollution Prevention Control Directive (96/61/EC)	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land from industrial sources.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
National		
Madional		

Objectives of the NSS are to achieve a better balance of sociale, common and physical development across Ireland, supported by more effective planning, Objectives in relation to the CDP are discussed above. Grid 25 Grid 25 Grid 25 is a high-level strategy outlining how Ericfiel intends to undertake the amounts of the theory of the the theory of th	Directive	Purpose	Interactions resulting in Cumulative Impacts
EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 stratesy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25 are intended to be implemented. Energy Policy framework White Paper Energy Policy framework White Paper This policy states that the Government is committed to delivering a significant growth in renewable energy as a contribution to full diversity in power generation with a 2020 target of 33% electricity consumption Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016 Irish Energy Policy framework with a 2020 target of 33% electricity consumption Irish Water's Water Services and identifies the priorities to be tackled in the short and medium term. This Water Services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term. Potential in-combination impacts may arise where there is a requirement to provide for new water and waste water infrastructure and capacity. Potential in-combination impacts may arise where there is a requirement to provide for new water and waste water infrastructure and capacity. Potential in-combination impacts may arise where there is a requirement to provide for new water and waste water infrastructure and capacity. Irish Water's Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorit		balance of social, economic and physical development across Ireland, supported by more effective planning. Objectives in	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction /
committed to delivering a significant growth in renewable energy as a contribution to fud diversity in power generation with a 2020 target of 33% electricity consumption Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016 Investment Swater Genetic Investment Investment Investment Investment Investment Investment I	Grid 25	EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 strategy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25	where there is a requirement to provide for new electrical infrastructure. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction /
Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016 It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term. Meeting additional potable water demands and waste water treatment demands arising from the proposed increase in population has the potential to adversely affect, in the case of abstractions, the quantitative status of groundwaters. Such demands would occur incombination with those in adjoining counties. Adverse effects on the ecological status of surface waters and on the quantitative status of groundwaters would have the potential to impact upon protected species and habitats. Provision of infrastructure and increases in capacity may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction /	2007-2020, Governments	This policy states that the Government is committed to delivering a significant growth in renewable energy as a contribution to fuel diversity in power generation with a 2020	where there is a requirement to provide for new wind energy infrastructure. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction /
	Strategic Plan 2015 and associated Proposed Capital	strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in	where there is a requirement to provide for new water and waste water infrastructure and capacity. Meeting additional potable water demands and waste water treatment demands arising from the proposed increase in population has the potential to adversely affect, in the case of abstractions from and effluent discharges to surface waters, the ecological status of surface waters and, in the case of groundwater abstractions, the quantitative status of groundwaters. Such demands would occur incombination with those in adjoining counties. Adverse effects on the ecological status of surface waters and on the quantitative status of groundwaters would have the potential to impact upon protected species and habitats. Provision of infrastructure and increases in capacity may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction /

Directive	Purpose	Interactions resulting in Cumulative Impacts
Regional Planning Guidelines For The Greater Dublin Area 2010 - 2022.	Policy document which aims to direct the future growth of the Greater Dublin Region over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS)	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Transport Strategy for the Greater Dublin Area 2016- 2035 Ireland's First National Cycle Policy Framework (2009)	The Strategy outlines transport development objectives for the Greater Dublin Area over a twenty year period. Outlines objectives and actions aimed at developing a strong cycle network in Ireland Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed Sets out a ten year cycling strategy for	Potential for in-combination impacts may arise where there is a requirement to provide for new transport infrastructure, or increase capacity of existing infrastructure/services. Provisions for the development of transport infrastructure may potentially result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Network Plan	Counties Dublin, Kildare, Meath and Wicklow Plan to increase regions cycle network dramatically	operation
Local		
South County Dublin Development Plan 2016 – 2022 Fingal County Development Plan 2017-2023 Dublin City Development Plan 2016 - 2022 Meath County Development Plan 2013-2019 Offaly County Development Plan 2015-2021 Laois County Development Plan 2011-2017 Carlow County Development Plan 2015-2021 Wicklow County Development Plan 2010- 2016 (2016-2022)	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	Kildare shares its boundary with a number of counties. Furthermore a number of European sites are located in more than one county. Similar development plans are in existence throughout the region, accordingly these plans acting alone or in combination can have a cumulative impact on European sites located within County Kildare. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Athy Town Development Plan 2012 Naas Town Development Plan 2011 Local land use plans including Sallins Local Area Plan 2016, Monasterevin Local Area Plan 2015, Kilcock Local Area Plan 2015, Kilcullen LAP 2014, Kildare LAP 2012, Newbridge LAP 2013, Maynooth LAP 2013, Collinstown LAP, Kilcock LAP 2009, Clane Local Area Plan 2009, Celbridge LAP 2010, Leixlip LAP 2010, Monasterevin LAP 2009, Sallins LAP 2009, Naas Northwest Quadrant Masterplan 2007 and Edenderry LAP 2011	Strategies for development in towns and villages.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: • Habitat loss • Alteration of hydrology • Deterioration in water quality • Disturbance during construction / operation

2.6 Conclusions

The likely impacts that will arise from the implementation of the Kildare County Development Plan have been examined in the context of a number of factors that could potentially affect the integrity of European Sites. On the basis of the findings of this screening for appropriate assessment (AA), it is concluded that the Plan:

- (i) is not directly connected with or necessary to the management of a European site and
- (ii) could, in the absence of mitigation, result in adverse effects on European Sites.

Therefore, applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 AA is required. That stage is set out in Section 3 of this report.

Section 3 Stage 2 Appropriate Assessment

3.1 Introduction

The main objective of this stage (Stage 2) in the AA is to determine whether the Plan would result in significant adverse impacts on the integrity of any European site with respect to the site's structure, function, and/or conservation objectives.

The Stage 1 Screening has created a list of sites with potential to be affected by the implementation of the Plan. Therefore, Stage 2 AA is required. The potential adverse effects considered at this stage will either be effects occurring as a result of the application of the Plan alone or in-combination with other plans, programmes, and/or projects.

In total, 20 sites have been identified that may be adversely affected through the implementation of the Plan. These sites are categorised into different ecosystem types as presented in Table 3.1.

Table 3.1: European Sites subject to Sta	ge 2 Appropriate Assessment
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Rivers and Lakes	Bogs	Coastal and marine	Woodlands and uplands	SPAs
Ballynafagh Lake SAC	Ballynafagh Bog SAC	North Dublin Bay SAC		Poulaphouca Reservoir SPA
Rye Water Valley/Carton SAC	Pollardstown Fen SAC	South Dublin Bay SAC		River Boyne and River Blackwater SPA
River Barrow And River Nore SAC	Red Bog, Kildare SAC	Boyne Coast and Estuary SAC		Boyne Estuary SPA
River Boyne and River Blackwater SAC	Mouds Bog SAC			North Bull Island SPA
				South Dublin Bay and River Tolka Estuary SPA

SSCOs have been published (as of February 2017,) for 9 European Sites that have been screened in for Stage II AA (see summary data relating to each site presented in Appendix I). The conservation objectives of each qualifying habitat and species for European sites are presented as a selection of attributes against which targets are set. Detailed SSCOs are likely to be more useful for project level AA. In this assessment they have been useful in determining the sensitivity of particular QIs and SCIs. Those European sites screened in for Stage 2 AA which have SSCOs prepared are as follows:

- River Barrow and Nore cSAC
- North Dublin Bay cSAC
- South Dublin Bay cSAC
- Boyne Estuary SPA
- Boyne Coast and Estuary cSAC
- North Bull Island SPA
- South Dublin Bay and River Tolka Estuary SPA
- Mouds Bog SAC
- Ballynafagh Bog SAC

Where SSCOs were not available consideration was given to the SSCOs of other sites which have similar qualifying interests.

3.2 Potential Significant Effects

As outlined in the European Commission Environment DG document "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", impacts that could potentially occur through the implementation of the Plan can be categorised under a number of headings:

- Loss / reduction of habitat area (e.g. due to the development of new projects)
- Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects)
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value such as decrease in water quality / quantity (e.g. through inadequate wastewater treatment, run-off of pollutants during construction and operation of developments, agricultural runoff)

The Plan is a high level plan that provides a framework for sustainable development within County Kildare over the period 2017 to 2023. The Plan does not prescribe the particular locations (site specific) of any developments of infrastructure other than some infrastructural works that are site specific. Overall, the Plan underpins the development of housing, communities and urban centres with supporting transport, water, waste, energy, and communication infrastructure within the County. The villages, rural settlements and towns that have plans which form part of the County Development Plan, are prescribed with specific locations for development. Where specific development is known, the potential impacts on European sites have been assessed accordingly.

Plan components which would be likely to result in potential impacts include proposed amenity walkways and cycleways, additional potable water requirements and waste water treatment requirements arising from the proposed increase in population, upgrading the capacity of the Maynooth and Kildare rail lines, road improvements/upgrades, and renewable energy such as hydroelectricity plants and wind turbines.

3.2.1 Reduction of Habitat Area

Direct habitat loss is caused where there is complete removal of a habitat type. Habitat loss can also occur through the reduction of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination or physical alteration.

There is a potential that any designated site within the functional area of the Plan may be adversely affected in this manner through the implementation of the Plan. Development either in isolation or in combination with other similar developments can potentially lead to significant adverse impacts on the environment with long term consequences. Construction of housing and commercial/industrial properties could lead to loss of habitats if inappropriately located within the boundaries of a designated site. Indirectly, habitat loss may also occur through draining of development lands adjacent to or hydro-geologically linked to designated sites that support surface or ground water dependent habitats such as bogs and rivers (see Table 3.1 above).

The Plan supports the development adjacent to and/or within European designated sites. The development of housing, infrastructure, commercial/industrial or touristic routes such as walkways and cycleways could potentially lead to habitat loss through inappropriately sited developments. The plan includes a commitment to develop and support the implementation of a Green Infrastructure Strategy for County Kildare (such a Strategy would be required to be subject to AA and SEA as appropriate) as well as commitments to actively support measures relating to the delivery of the Barrow Blueway by Waterways Ireland and the delivery of greenway projects such as the Dublin to Galway initiative.

The development of new and existing walking, cycling and driving routes/trails (e.g. Arthur's Way, Dublin- Galway Greenway, Barrow Blueway, Shackleton Trail, the Gordon Bennett Route) including the development of linkages between trails in Kildare and adjoining counties have the potential to contribute towards a better management of tourism in sensitive areas and thereby benefitting various

environmental components including habitats at certain locations. The construction and operation of such developments and/or their ancillary infrastructure also presents potential effects with respect to the protection of **European Sites** as these types of infrastructure are often constructed in ecologically sensitive areas adjacent to the banks of rivers and streams.

Those European sites that could potentially be affected by habitat loss include those sites listed in Table 3.1 above that are designated for terrestrial habitats and species. As developments within the Plan have not been specifically located reduction of habitat area on any European sites within the Plan Area cannot be ruled out at this stage. Therefore, all European sites listed in Table 2.1 above may potentially be affected by habitat loss. European sites which may be potentially affected by habitat loss due to the development of specific settlements of the County which are within or nearby these sites include those presented on Table 3.2 overleaf.

Table 3.2 European sites potentially affected by reduction of habitat area

Site Code	European Sites including	Settlement
2162	River Barrow and River Nore cSAC	• Athy
		Monasterevin
		Maganey/ Levitstown
		Ballyroe
		Castledermot
1398	Rye Water Valley/Carton cSAC	Maynooth
		Leixlip/ Collinstown
1387	Ballynafagh Bog cSAC	Prosperous
2331	Mouds Bog cSAC	Clongorey/ Blacktrench
		Milltown
		Newbridge

3.2.2 Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of habitats resulting in interference with existing ecological units. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors when construction introduces a barrier to the free movement of species from one area of habitat to another.

Installation of linear infrastructure e.g. roads and other transportation links, water and wastewater pipelines, electricity supply lines, can have a negative impact over a wide distance where such infrastructure crosses designated sites. Effects can include habitat or species fragmentation where, for example, electricity supply lines or wind turbines may interrupt the flight paths of birds or newly installed bridges disturb the migration of salmon. Disturbance impacts to birds, as outlined in Section 3.2.3 below may also lead to fragmentation of bird populations. European sites that could potentially be affected by fragmentation include those sites listed above that are designated for terrestrial and freshwater habitats and species.

3.2.3 Disturbance to Key Species

Disturbance to species supported by a European Site is likely to increase where there is an increase in activity levels from recreation and amenity or from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, light, construction and operation activities or other sources of disturbance arising from recreation and amenity or from the inappropriate timing of works.

The European sites potentially affected include the River Boyne and River Blackwater SAC and the Wicklow Mountains SAC, both of which have otter designated as qualifying interests. Otter are vulnerable to disturbance due to construction works, aquaculture practices, and increased amenity uses along waterways arising from proposed developments as part of the Plan. In addition, all SPAs that occur within the Plan Area are vulnerable to disturbance to key species from the implementation of the Plan.

The Plan supports the development of infrastructural development and the promotion of tourism and recreation. These projects have the potential to cause disturbance impacts to key species if located in proximity to relevant European sites.

Table 3.3: European sites and QIs \prime SCIs vulnerable to disturbance to key species from the implementation of the Plan

Site Code	Site Name	QI (s) and SCI (s) potentially affected by the Plan		
		including		
396	Pollardstown Fen SAC	Vertigo geyeri		
		Vertigo angustior		
1007		Vertigo moulinsiana		
1387	Ballynafagh Lake SAC	Vertigo moulinsiana Funda de la cuitaine		
2162	River Barrow And River Nore	Euphydryas aurinia Allis shad (Alosa alosa)		
2102	SAC	Atlantic salmon (Salmo salar)		
	3,10	Brook lamprey (Lampetra planeri)		
		Desmoulin's whorl snail (Vertigo moulinsiana)		
		Freshwater Pearl Mussel (Margaritifera margaritifera)		
		Killarney Fern (Trichomanes speciosum)		
		Freshwater Pearl Mussel (Margaritifera durrovensis)		
		Otter (Lutra lutra) Furence river lamprov (Lampetra fluviatilia)		
		European river lamprey (Lampetra fluviatilis) Twait shad (Alosa fallax)		
		White clawed crayfish (Austropotamobius pallipes)		
1398	Rye Water Valley/Carton SAC	Desmoulin's whorl snail (Vertigo moulinsiana);		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Narrow-mouthed whorl snail (Vertigo angustior)		
4063	Poulaphouca Reservoir SPA	Greylag Goose (Anser anser)		
		Lesser Black-backed Gull (Larus fuscus)		
2299	River Boyne and River	Lampetra fluviatilis		
	Blackwater SAC	Salmo salar		
2122	Mindow Mountains CAC	Lutra lutra Oligation his to magazinan his standing waters with vagatation of the		
2122	Wicklow Mountains SAC	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea		
		Natural dystrophic lakes and ponds		
		Northern Atlantic wet heaths with Erica tetralix		
		European dry heaths		
		Alpine and Boreal heaths		
		Species-rich Nardus grasslands, on siliceous substrates in mountain		
		areas (and submountain areas, in Continental Europe)		
		Blanket bogs (* if active bog) Siliceous scree of the montane to snow levels (Androsacetalia alpinae		
		and Galeopsetalia ladani)		
		Calcareous rocky slopes with chasmophytic vegetation		
		Siliceous rocky slopes with chasmophytic vegetation		
		Old sessile oak woods with Ilex and Blechnum in the British Isles		
		Lutra lutra		
4232	River Boyne and River	Kingfisher Alcedo atthis		
4000	Blackwater SPA			
4080	Boyne Estuary SPA	Shelduck Tadorna tadorna Oustavestebay Hagmatanus activalegus		
		Oystercatcher Haematopus ostralegus Golden Plover Pluvialis apricaria		
		Grey Plover Pluvialis squatarola		
		Lapwing Vanellus vanellus		
		Knot Calidris canutus		
		Sanderling Calidris alba		
		Black-tailed Godwit Limosa limosa		
		Redshank Tringa totanus Tringa totanus		
		Turnstone Arenaria interpres Little Tern Sterna albifrons		
4006	North Bull Island SPA	Bar-tailed Godwit (Limosa lapponica)		
1000	110.01 Dan Island SI A	Golden Plover (Pluvialis apricaria)		
		Black-headed Gull (Larus ridibundus)		
		Black-tailed Godwit (Limosa limosa)		
		Curlew (Numenius arquata)		
		Dunlin (Calidris alpina)		
		Grey Plover (Pluvialis squatarola) (Colidria gray true)		
		Knot (Calidris canutus) Light-bellied Brent Goose (Branta bernicla hrota)		
		Oystercatcher (Haematopus ostralegus)		
L	J	- 5,5tereaterier (maematopus ostrategus)		

Site Code	Site Name	QI (s) and SCI (s) potentially affected by the Plan			
		including			
		Pintail (Anas acuta)			
		Redshank (Tringa tetanus)			
		Sanderling (Calidris alba)			
		Shelduck (Tadorna tadorna)			
		Shoveler (Anas clypeata)			
		• Teal (Anas cracca)			
		Turnstone (Arenaria interpres)			
		Wetlands & Waterbirds			
4024	South Dublin Bay and River	Arctic Tern (Sterna paradisaea)			
	Tolka Estuary SPA	Bar-tailed Godwit (Limosa lapponica)			
		Common Tern (Sterna hirundo)			
		Roseate Tern (Sterna dougallii)			
		Black-headed Gull (Larus ridibundus)			
		Dunlin (Calidris alpina)			
		Grey Plover (Pluvialis squatarola)			
		Knot (Calidris canutus)			
		Light-bellied Brent Goose (Branta bernicla hrota)			
		Oystercatcher (Haematopus ostralegus)			
		Redshank (Tringa tetanus)			
		Ringed Plover (Charadrius hiaticula)			
		Sanderling (Calidris alba)			
		Wetlands & Waterbirds			

3.2.4 Changes in Key Indicators of Conservation Value

The key indicators of conservation value for the majority of European sites in County Kildare are surface water quality and quantity. Impacts on European sites may occur where there are hydrological connections between the sites and development areas. Implementation of the Plan may result in alterations to the hydrological regime or physical environment of sites through water abstraction, drainage, and discharges to watercourses, coastal waters or groundwater resources. Of particular importance will be the provision of water supplies and the disposal of wastewater.

Development located in proximity to groundwater dependent habitats may interfere with the hydro geological regime that supports groundwater-dependent qualifying interests. Developments which may be carried out as part of the Plan could potentially interfere with the hydrogeological regime of those sites listed in Table 3.4, therefore potentially reducing the habitat quality of those sites.

Meeting additional potable water demands and waste water treatment demands arising from the proposed increase in population has the potential to adversely affect, in the case of abstractions from and effluent discharges to surface waters, the ecological status of surface waters and, in the case of groundwater abstractions, the quantitative status of groundwaters. Such demands would occur incombination with those in adjoining counties. Irish Water's plan and programme making is subject to SEA and AA at national, regional, county and local levels. Adverse effects on the ecological status of surface waters and on the quantitative status of groundwaters would have the potential to impact upon protected species and habitats.

Table 3.4: European sites and QIs/SCIs potentially impacted on by the implementation of the Plan

Site Code	Site Name	Location in relation to the Plan	Qualifying features (QIs or SCIs)
391	Ballynafagh Bog SAC	Within Plan Area	 Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion
396	Pollardstown Fen SAC	Within Plan Area	 Calcareous fens with Cladium mariscus and species of the Caricion davallianae Petrifying springs with tufa formation (Cratoneurion) Alkaline fens Vertigo geyeri Vertigo angustior Vertigo moulinsiana

Site Code	Site Name	Location in relation to	Qualifying features (QIs or SCIs)
397	Red Bog, Kildare SAC	the Plan Within Plan Area	Transition mires and quaking bogs Natural euthrophic lakes with Magnopotamion or Hydrocharition-type vegetation Active raised bogs
1387	Ballynafagh Lake SAC	Within Plan Area	Alkaline fens Vertigo moulinsiana Euphydryas aurinia Transition mires and quaking bogs
1398	Rye Water Valley/Carton SAC	Within Plan Area	 Petrifying springs* Desmoulin's whorl snail (Vertigo moulinsiana); Narrow-mouthed whorl snail (Vertigo angustior)
2162	River Barrow And River Nore SAC	Within Plan Area	 Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Mediterranean salt meadows (Juncetalia maritimi) Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation European dry heaths Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels Petrifying springs with tufa formation (Cratoneurion) Old sessile oak woods with Ilex and Blechnum in the British Isles Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Spartina swards (Spartinion maritimae Allis shad (Alosa alosa) Atlantic salmon (Salmo salar) Brook lamprey (Lampetra planeri) Desmoulin's whorl snail (Vertigo moulinsiana) Freshwater Pearl Mussel (Margaritifera margaritifera) Killarney Fern (Trichomanes speciosum) Freshwater Pearl Mussel (Margaritifera durrovensis) Otter (Lutra lutra) European river lamprey (Lampetra fluviatilis) Twait shad (Alosa fallax) White clawed crayfish (Austropotamobius pallipes)
2331	Mouds Bog SAC	Within Plan Area	 Active raised bogs Degraded raised bogs still capable of natural regeneration Depressions on peat substrates of the Rhynchosporion
2299	River Boyne and River Blackwater SAC	390m from Plan Area	Alkaline fens Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Lampetra fluviatilis Salmo salar Lutra lutra
1957	Boyne Coast and Estuary SAC	>15000m from Plan Area	 Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Mediterranean salt meadows (Juncetalia maritimi) Embryonic shifting dunes Shifting dunes along the shoreline with Ammophila arenaria (white dunes) Fixed coastal dunes with herbaceous vegetation (grey dunes)
0206	North Dublin Bay SAC	>15000m from Plan Area	 Atlantic salt meadows Drift lines Dune slack Embryonic shifting dunes Fixed dunes (grey dunes)* Marram dunes (white dunes) Mediterranean salt meadows Salicornia mud Tidal mudflats Petalwort (Petalophyllum ralfsii)
0210	South Dublin Bay SAC	>15000m from Plan Area	Tidal mudflats

Section 4 Mitigation Measures

4.1 Introduction

Where it cannot be demonstrated that there will be no adverse effects from implementation of the Plan, mitigation measures have been devised. The measures that have been incorporated are compatible with those proposed by the SEA Environmental Report and with other relevant plans and programmes e.g. Programme of Measures proposed by the River Basin Management Plan and SEA.

4.2 Measures to protect Habitats and Species

As outlined in Section 2.3.2 of this assessment a number of significant effects that could impact on habitats and species have been identified.

Measures have been included in the objectives of the Plan that will help to ensure these impacts are avoided. As a result of the AA and SEA of the Plan, a number of objectives have been introduced and existing objectives amended to strengthen the protection afforded to European sites.

These objectives will ensure that project level AAs are carried out where development projects are likely to have significant effects on European designated sites. This will help to ensure that project level effects, which cannot be predicted at the Development Plan level, will be mitigated and encroachment on protected sites through inappropriate development will be avoided.

Table 4.1 identifies the potential impacts on European sites and the mitigation measures incorporated into the County Development Plan to alleviate these pressures. The measures will contribute towards the protection of European Sites.

These measures have evolved as part of an iterative process between the Planning and AA/SEA teams which included the provision of various Suggestions for Conflict Avoidance early on in the process which were integrated into the preparation of Plan provisions by Kildare County Council. Various versions of Plan provisions were prepared by the Council, taking into account, inter alia, AA and Natura 2000 considerations, including those which were highlighted as part of the Suggestions for Conflict Avoidance.

Table 4.1 Mitigation against the potential effects associated with provisions of the Plan

Element of the Plan	Potential Impact	European sites potentially	Mitigation including ³
Chapter 3; Settlement Strategy: Increased populations in towns throughout the county	 Habitat loss Disturbance to key species Changes to key indicators of environmental quality 	All qualifying features of those European sites listed in Table 3.1 above	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 3 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 4; Housing: New housing development throughout the county	 Habitat loss Disturbance to key species Changes to key indicators of environmental quality 	Those European sites which occur within the Plan Area, and those sites which occur outside the Plan Area that have water dependant QIs and are hydrologically connected to the Plan Area.	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 4 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 5; Economic Development, Enterprise and Tourism Promotion and facilitation of economic development concentrated in the major settlements in the County Also Retail and Commercial Development, Regeneration, Rural Development, Agriculture, Energy Production and Tourism and Recreation Tourism-related Policies/Objectives including those relating to the development of green and blue ways	 Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality 	All those European sites which occur within the Plan Area.	The following pollicises/objectives/aims from the Plan will mitigate against those provisions within Chapter 5 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
 Chapter 6; Movement and Transportation⁴: Provisions relating to walking and cycling, roads and 	Habitat lossDisturbance to key species	All those European sites listed in Table 3.1 above	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 6 that may potentially lead to

³ Objectives are coded according to the numbering system adopted in the main text of the draft Plan.

⁴ This chapter includes a Policy relating to the Leinster Outer Orbital Route (Policy NR 3: To recognise the strategic importance of the proposed Leinster Orbital Route infrastructure as recognised in the Regional Planning Guidelines for the Greater Dublin Area and the NTA's Greater Dublin Area draft Transport Strategy 2016 – 2035 and to ensure the protection of the proposed junction zones and likely approach route corridors free of inappropriate development and otherwise facilitate the TII in the delivery of the preferred route).

It is noted that the Transport Strategy for the Greater Dublin Area does not provide for the development of the Leinster route however it does recommend that the protection of the route corridor from development. A route corridor for the Leinster Outer Orbital Route has not been finalised to date. Policy NR 3 provides for the preservation free of development of any future route corridor — reservation of the route corridor would facilitate the avoidance of future disturbance of development areas and associated potential effects upon various environmental components. The progression of the Leinster Outer Orbital Route by others would need to be subject to tiers of environmental assessments including SEA, EIA and AA.

Element of the Plan	Potential Impact	European sites potentially affected including	Mitigation including ³
aviation including Walking and Cycling Policies and Objectives relating to the development of green and blue ways	Habitat/species fragmentation Changes to key indicators of environmental quality		adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 7; Infrastructure: Provisions relating to walking and cycling, roads and aviation	Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality	All those European sites listed in Table 3.1 above	The following policies/objectives /aims from the Plan will mitigate against those provisions within Chapter 7 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 8; Energy and Communications: Provisions relating to energy generation and supply and telecommunications	Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality	All those European sites listed in Table 3.1 above	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 8 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13 Chapter 8 Objectives: WE 2.
Chapter 9; Retail The promotion of new retail developments and associated infrastructure The promotion of and encouragement of tourism retail	Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality	All those European sites within the Plan Area	The following policies/objectives /aims from the Plan will mitigate against those provisions within Chapter 9 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 10; Rural Development Including provisions relating to the development of	Habitat lossDisturbance to key species	All those European sites which occur within the Plan Area.	The following policies/objectives /aims from the Plan will mitigate against those provisions within Chapter 10 that may potentially lead

Element of the Plan	Potential Impact	European sites potentially affected including	Mitigation including ³
agriculture, tourism, forestry, green energy, mineral resources/extractive industry, boglands and rural enterprises	Habitat/species fragmentation Changes to key indicators of environmental quality	anected including	to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH
Chapter 11; Social Community and Cultural Development Including the development of social, community and cultural facilities	 Disturbance to key species Changes to key indicators of environmental quality 	European sites that occur within the Plan Area and those SACs that occur outside the Plan Area but are	10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13 Chapter 10 Policies: EI 5, EI 7. The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 11 that may potentially lead to adverse impacts on European sites:
		hydrologically linked to the County	Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 13; Natural Heritage & Green Infrastructure Including the development of green infrastructure	 Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality 	All those European sites listed in Table 3.1 above	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 13 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13
Chapter 14; Landscape, Recreation and Amenity Including the development of recreational areas and amenities	 Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality 	All those European sites listed in Table 3.1 above	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapter 14 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, G1 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13 Chapter 14 Policies: WC 4, PF 2.

Element of the Plan	Potential Impact	European sites potentially affected including	Mitigation including ³
Chapter 17 and 18; Villages, small towns and environs plans	 Habitat loss Disturbance to key species Habitat/species fragmentation Changes to key indicators of environmental quality 	River Barrow and River Nore cSAC (Athy, Monasterevin, Maganey/ Levitstown, Ballyroe and Castledermot) Pollardstown Fen (Newbridge, Milltown and Kildare) Rye Water Valley/Carton cSAC (Maynooth, Leixlip/ Collinstown) Ballynafagh Bog cSAC (Prosperous) Mouds Bog cSAC (Clongorey/ Blacktrench, Milltown and Newbridge)	The following policies/objectives/aims from the Plan will mitigate against those provisions within Chapters 17 and 18 that may potentially lead to adverse impacts on European sites: Chapter 13 Natural Heritage and Green Infrastructure Aim. Chapter 13 Policies: NH 3, NH 4, NH 5, NH 6, NH 7, NH 8, NH 9, NH 10, NH 11, NH 12, GI 5, GI 17, GI 18, GI 25, GI 27. Chapter 13 Objectives: NHO 6, NHO 9. Chapter 7 Policies: WS 13 In addition: • The Athy Town Development Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites • The Monasterevin Local Area Plan has been subject to its own SEA and AA process which were required to help to ensure that the Plan does not affect European Sites • The Newbridge Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites The Maynoth Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites The Maynoth Local Area Plan has been subject to its own SEA and AA process and mitigation measures have been integrated in order to help to ensure that the Plan does not affect European Sites The Leixlip/Collinstown Local Area Plan is subject to its own SEA and AA process which are required to help to ensure that the Plan does not affect European Sites Castledermot plan: • Objective CD 26: To conserve and protect riparian (beside rivers) corridors. New development will not be permitted within the SAC boundary or a minimum of 10m from either side of the River Lerr, which is designated under the River Barrow and River Nore SAC) will be subject to an Appropriate Assessment under the Habitats Directive in consultation with the National Parks and Wildlife Service (NPWS). Policies applicable to designated sites and species are contained in chapter

Section 5 Conclusion

Stage 1 Screening and Stage 2 appropriate assessment of the Kildare County Development Plan 2017-2023 have been carried out. Implementation of the Plan has the potential to result in impacts to the integrity of European Sites, if unmitigated.

The risks to the safeguarding and integrity of the qualifying interests and conservation objectives of European Sites have been addressed by the inclusion of mitigation measures that will prioritise the avoidance of effects in the first place and mitigate effects where these cannot be avoided. In addition, all lower level plans and projects arising through the implementation of the Plan will themselves be subject to AA when further details of design and location are known.

Having incorporated mitigation measures, it is considered that the Plan will not have a significant adverse effect on the ecological integrity of any European Site⁵.

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⁵ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

⁽a) no alternative solution available,

⁽b) imperative reasons of overriding public interest for the plan to proceed; and

⁽c) adequate compensatory measures in place.