



Appendix 15.1

County Development Plans and Biodiversity

Coolglass Wind Farm EIAR Volume 3

Coolglass Wind Farm Limited

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CHAPTER 11: BIODIVERSITY AND NATURAL HERITAGE

Aim: To contribute towards the protection, conservation and management of biodiversity and natural heritage including sites designated at national and EU level and protected species and habitats outside of designated sites and to develop a green infrastructure network in the interests of the proper planning and sustainable development of the county.

11.1 INTRODUCTION

The County's natural heritage and biodiversity is of local, national and international importance and is recognised as an important environmental and economic resource that requires care and management through the planning process. Laois has a wide range of habitat types and landscapes supporting diverse species both in natural and semi-natural state and managed locations. Natural heritage areas includes the upland area of the Slieve Bloom Mountains, scenic river valleys of the Barrow and Nore, woodlands, rolling farmland and a network of mature biodiversity areas such as boglands, riparian habitats and hedgerows. Protecting and enhancing our biodiversity, ecosystems and landscapes is vital to the health, well-being and quality of life of our communities and assists societal adaptation to the challenges of climate change.

11.2 POLICY CONTEXT

Ireland has signed and ratified a number of international conventions and agreements including the Convention on Biological Diversity, the Convention on the Conservation of European Wildlife and Natural Habitats (Bern) and the Convention on Wetlands of International Importance (Ramsar). These various obligations are given legal effect through both European and National legislation and have resulted in the designation of natural heritage sites throughout the country.

11.2.1 EU BIRDS AND HABITATS DIRECTIVES

EC Birds Directive (Directive 2009/147 EC) The EU Birds Directive (Council Directive 79/409/EEC) and the EU Habitats Directive (European Directive 92/43/EEC) provides for the establishment of the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. The Natura 2000 network of European sites comprises Special Areas of Conservation (SAC), and Special Protection Areas (SPA).

11.2.2 NATIONAL LEGISLATION

Development Plans must include mandatory objectives for the conservation of the natural heritage and for the conservation of European sites and any other sites which may be prescribed. National legislation includes the following: Wildlife Acts 1976 and 2010 (as amended), the Planning and Development Act 2000 (as amended) and associated Regulations, European Union (Planning and Development), (Environmental Impact Assessment) Regulations 2018, the European Union (Water Policy) Regulations 2003 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), the European Communities (Environmental Liability) Regulations 2008 (as amended) and the Flora Protection Order 2015.

11.2.3 NATIONAL PLANNING FRAMEWORK (NPF)

The National Planning Framework (NPF) aims to protect and value our important and vulnerable habitats, landscapes, natural heritage and green spaces. It highlights the importance of the interrelationships between biodiversity, natural heritage, landscape and our green spaces. The NPF states that integrated planning for Green Infrastructure and ecosystem services will be incorporated into the preparation of statutory land use plans. It also refers to the importance of biodiversity and how the planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits having regard to the requirements of all relevant environmental legislation.

11.2.4 REGIONAL SPATIAL AND ECONOMIC STRATEGY

The Strategy recognises the need to conserve and enhance the biodiversity of our protected habitats and species including landscape and heritage protection, to identify, protect and enhance our Green Infrastructure, to ensure the sustainable management of our natural resources, to build climate resilience, to support the transition to a low carbon economy by 2050 and the protection of the healthy natural environment to ensure clean air and water for all. In line with Regional Policy Objective (RPO) 3.4 of the Eastern and Midland Regional Spatial and Economic Strategy, the Council promotes an ecosystems services approach in the preparation of this County Development Plan.

11.2.5 NATIONAL BIODIVERSITY ACTION PLAN 2017 – 2021

The Plan sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'Vision for Biodiversity', and follows on from the work of the first and second National Biodiversity Action Plans. The objectives lay out a clear framework for Ireland's national approach to biodiversity, ensuring that efforts and achievements of the past are built upon, while looking ahead to what can be achieved over the next five years and beyond.

11.2.6 LAOIS BIODIVERSITY ACTION PLAN

Laois County Council has developed a suite of Local Biodiversity Action Plans for Abbeyleix, Ballacolla, Cullahill, Emo, Killenard, Mountmellick and Portarlinton with funding from Laois Partnership. Each Plan builds on the measures outlined in the National Biodiversity Action Plan.

11.2.7 ALL IRELAND POLLINATOR PLAN

One third of our bee species are threatened with extinction from Ireland. This is because we have drastically reduced the amount of food (flowers) and safe nesting sites in our landscapes. The All-Ireland Pollinator Plan is about all of us, from farmers to local authorities, to schools, gardeners and businesses, coming together to try to create an Ireland where pollinators can survive and thrive. The first Plan covers the period 2015-2020 and a new version will be developed to cover 2021-2025. Each sector have been targeted in the Plan including Councils where key actions have been identified to protect natural wildflower areas, promote pollinator friendly planting and raise awareness of the importance of biodiversity.

11.3 BIODIVERSITY AND CLIMATE CHANGE

At the national level, climate change has also become central to Ireland's National Biodiversity Action Plan which focuses on removing threats and building resilience in Ireland's ecosystems to help them adapt to climate change and other threats. Increasing our understanding of the effects of climate change on biodiversity and developing practical ways of mitigating such effects, are critical to limit the damage. Biodiversity can support efforts to reduce the negative effects of climate change. Conserved or restored habitats can remove carbon dioxide from the atmosphere, thus helping to address climate change by storing carbon in peatlands and other Green Infrastructure. Options to increase the adaptive capacity of biodiversity in the face of accelerating climate change include:

- Reducing non-climatic stresses, such as pollution, habitat loss and fragmentation and invasive alien species.
- Wider adoption of conservation and sustainable use practices including through the strengthening of protected area networks and Green Infrastructure.

11.4 DESIGNATED SITES

The National Parks and Wildlife Service of the Department of Environment, Heritage & Local Government is responsible for designating areas of special biodiversity interest in the context of national and European legislation. These areas include Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Natural Heritage Areas (NHAs) and Statutory Nature Reserves. The county contains:

- 8 Special Areas of Conservation, SACs (See Map 11.1)
- 2 Special Protection Areas, SPAs (See Map 11.2)
- 2 Natural Heritage Areas, NHAs and 28 proposed Natural Heritage Areas (See Map 11.3)
- 3 Statutory Nature Reserves (See Map 11.4).

"Natura 2000 sites" is the collective name given to Special Areas of Conservation (SACs) and Special Areas of Protection (SPA). These sites contain habitats or species of special European importance. Appropriate Assessment is a requirement of Articles 6(3) and 6(4) of Council Directive 92/43 /EEC on the conservation of natural habitats and of wild flora and fauna, also known as the Habitats Directive. The requirement for an appropriate assessment is not defined by the nature of the scale of the proposed development but solely by its potential to negatively impact on a Natura 2000 site. It is the responsibility of the proponent of a plan or project to carry out an AA at each stage of the proposed development in accordance with Article 6. Appropriate Assessment is not and should not be regarded as a prohibition on new development or activities but involves a case by case examination of the implications for Natura 2000 sites and its conservation objectives in a recorded step wise procedure.

11.4.1 SPECIAL AREAS OF CONSERVATION (SAC)

Special Areas of Conservation are prime wildlife areas, considered to be important on a European as well as Irish level. The legal basis on which SACs are selected and designated is the EU Habitats Directive (92/43/EEC), transposed into Irish law in the European Communities (Birds and Natural Habitats) Regulations 2009-2015. The Directive lists certain habitats and species that must be protected within SACs. Irish habitats include raised bogs, blanket bogs, turloughs, sand dunes, machair, heaths, lakes, rivers, woodlands, estuaries and sea inlets. The

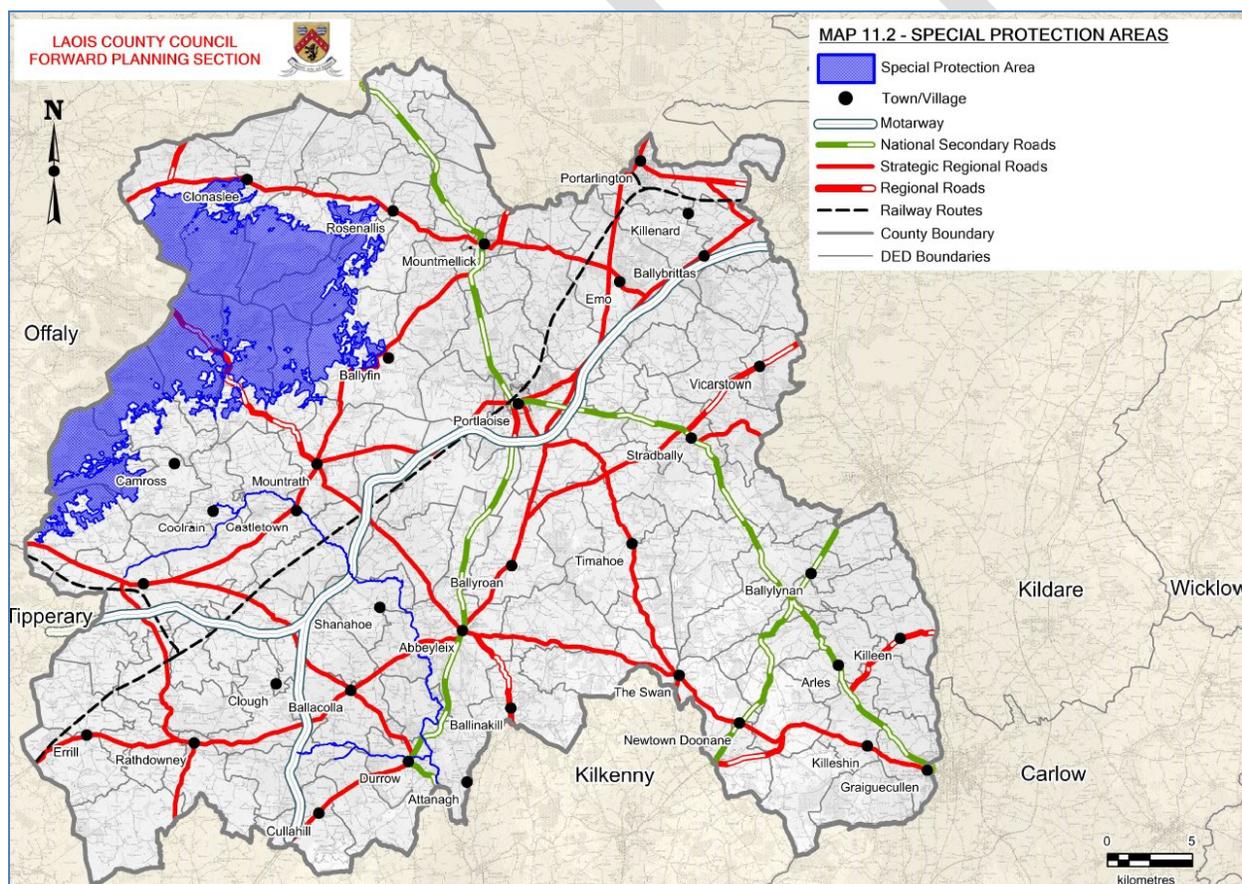
11.4.2 SPECIAL PROTECTION AREAS (SPA)

These are sites designated under the EU Birds Directive 79/409/EEC as a result of their importance for birds. There are two SPAs to date in County Laois, the Slieve Bloom Mountains SPA designated for the Hen Harrier, but also important for Merlin, Peregrine and Red Grouse and the River Nore SPA whose feature of interest is the Kingfisher.

Table 11.2 Special Areas of Protection in County Laois

Site Name	Site Code
Slieve Bloom Mountains	004160
River Nore	004233

Map 11.2: Special Protection Areas



11.4.3 NATURAL HERITAGE AREA (NHAS)

To date, only a selection of raised and blanket bog NHAs have been given formal legal protection. In County Laois, these sites are:

- 000652-Monaincha Bog / Ballaghmore Bog NHA

- 002357-Clonreher Bog NHA.

The remaining 28 proposed NHA (pNHA) sites in County Laois are given limited legal protection through; inter alia, recognition in the County Development Plan (See Table 11.3).

Map 11.3: Natural Heritage Areas

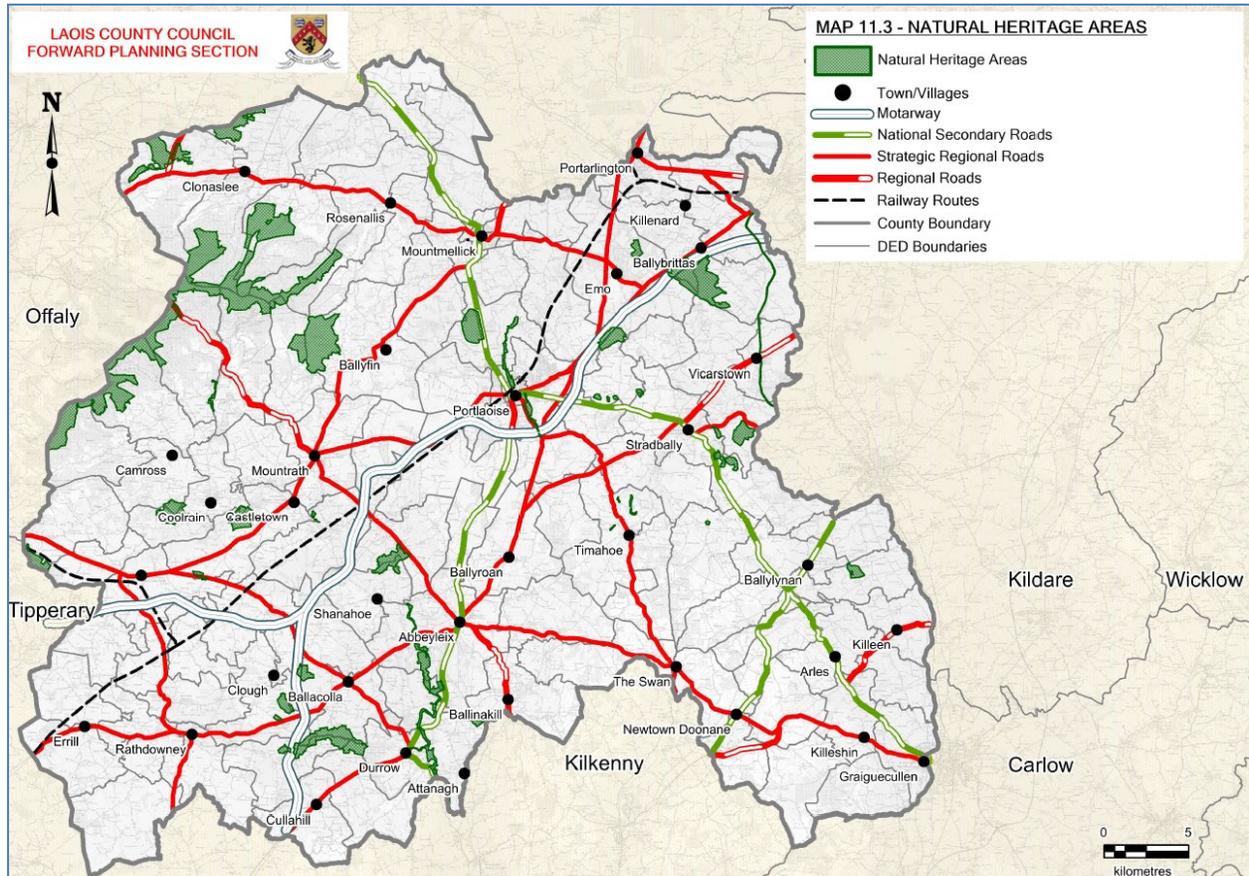


Table 11.3: Proposed Natural Heritage Areas (pNHAs)

SITE NAME	SITE CODE	MAIN HABITAT OR SPECIES
Annaghmore Lough Fen	000413	Calcareous fen with willow and birch scrub
Ballylynan	000857	Grassland, wet meadows
Barrow Valley At Tankardstown Bridge	000858	River, canal, grassland, marsh
Clonaslee Eskers And Derry Bog	000859	Esker, raised bog
Cloppook Wood	000860	Ash/hazel woodland, limestone hill
Coolacurragh Wood	000862	Birch/alder woodland, fen peat
Coolrain Bog	000415	Midland raised bog (with Knockacoller Bog, these two bogs are the most southerly intact examples of true Midland Raised Bogs in the country)
Cuffsborough	000418	Grassland used by Greenland White-fronted

		geese
The Curragh And Goul River Marsh	000420	Wet meadow, river, winter feeding site for Greenland White-fronted Geese
Delour River Nr Lacca Manor	000864	Oak/birch woodland, river, wet grassland
Derries Wood	000416	Disturbed raised bog, disused gravel pit, conifer Plantation, lake, reedbed, important insect populations
Dunamais Woods	001494	Limestone hills, oak/ash woodland
Emo Court	000865	Semi-natural mixed (oak/ash with beech) woodland, lake, parkland, amenity grassland
Forest House Wood	000874	
Grand Canal	002104	Canal, wetland, grassland
Grantstown Wood and Lough	000417	State-owned nature reserve. Lake in transition through fen to alder/willow. Important invertebrate fauna
Kilteale Hill	000867	Limestone hill, hazel/ash woodland
Knockacoller Bog	000419	Midland raised bog, Birch and alder woodland. One of the few intact bogs south of the Slieve Blooms
Lisbigney Bog	000869	Raised bog
Mannin Wetland	00868	Species-rich fen
Ridge Of Portlaoise	000876	Esker ridge, ash/hazel woodland, species-rich grassland, disused gravel pits
River Barrow And River Nore	002162	River, wetland, woodland
River Nore/Abbeyleix Woods Complex	002076	River, site for Freshwater Pearl Mussel (international importance), Twaite Shad (Vulnerable), wet grassland, mixed deciduous woodland of great antiquity and species diversity, with specimen oak
Rock of Dunamais	000878	
Shanahoe Marsh	001923	
Slieve Bloom Mountains	000412	Old Red Sandstone mountains, mountain blanket bog, Peregrine Falcon, Hen harrier, red grouse
Stradbally Hill	001800	
Timahoe Esker	000421	Esker ridge, Hazel/Ash woodland

11.4.4 STATUTORY NATURE RESERVES

A Statutory Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. All four Statutory Nature Reserves in Laois are State-owned.

11.4.4.1 Grantstown Wood and Grantstown Lough Nature Reserve

These reserves are situated about 8km north-west of Durrow, County Laois and provide rare examples of wet woodland on base-rich soils, while Grantstown Lough is a classic example of a lake which has gradually infilled through fen to alder carr. Animals and plants of interest include

Kingfishers, Cormorants and Otter. The wood is composed of native tree and shrub species, especially Oak, Ash, and Birch, along with Hawthorn, Guelder Rose, and Spindle.

11.4.4.2 Slieve Bloom Mountains Nature Reserve

This high mountain blanket bog, unlike many other bogs in Ireland, has been spared severe burning and grazing. It formed about six thousand years ago when the climate became wetter and bog began to blanket the mountain slopes. Animals and plants of interest include Ling Heather, Deer Grass and Sphagnum Moss. The mountains are important for populations of Red Grouse and Hen Harrier.

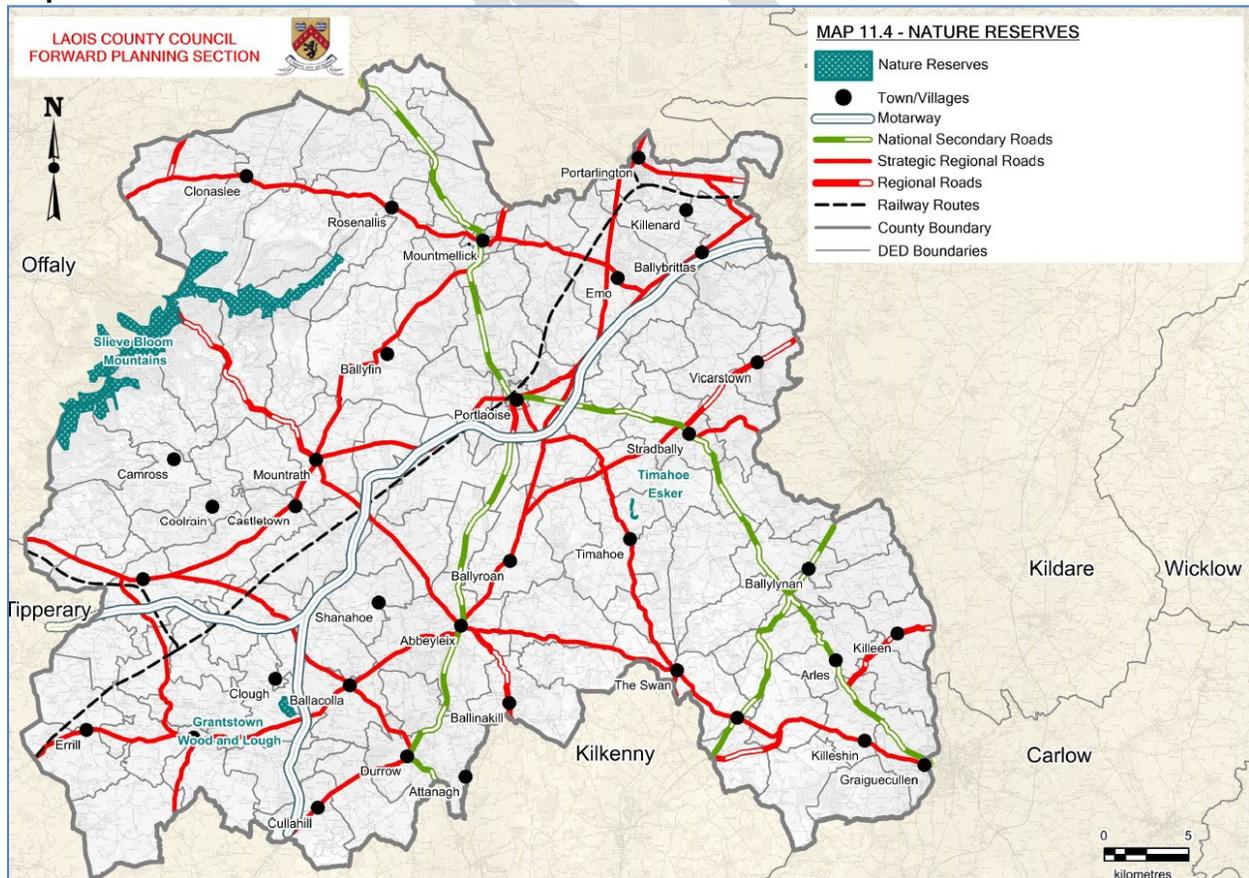
11.4.4.3 Timahoe Esker Nature Reserve

This is one of the few esker ridges left in the country which still carry native woodland. It is planned to expand the native woodland using appropriate management techniques.

11.4.4.4 Coolacurragh Wood

This reserve is an example of wet woodland on base-rich soils. It is dominated by alder, ash and birch with hawthorn in the shrub layer. The herb layer is dominated by bramble, nettle and meadowsweet. Fish in the lake provide Kingfishers, Cormorants and Otter with food.

Map 11.4: Nature Reserves



Policy Objectives for Biodiversity and Designated Sites	
BNH 1	Protect, conserve, and seek to enhance the county's biodiversity and ecological connectivity
BNH 2	Conserve and protect habitats and species listed in the Annexes of the EU Habitats Directive (92/43/EEC) (as amended) and the Birds Directive (2009/147/EC), the Wildlife Acts 1976 and 2010 (as amended) and the Flora Protection Orders.
BNH 3	Support and co-operate with statutory authorities and others in support of measures taken to manage proposed or designated sites in order to achieve their conservation objectives.
BNH 4	Protect and maintain the conservation value of all existing and future Natural Heritage Areas, Nature Reserves, Ramsar Sites, Wildfowl Sanctuaries and Biogenetic Reserves in the county.
BNH 5	Projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall not be permitted on the basis of this Plan (either individually or in combination with other plans or projects) ^[1] . Screening for AAs and AAs undertaken shall take into account invasive species as relevant.
BNH 6	Assess, in accordance with the relevant legislation, all proposed developments which are likely to have a significant effect (directly or through indirect or cumulative impact) on designated natural heritage sites, sites proposed for designation and protected species.
BNH 7	Protect Natural Heritage Areas (NHA) from developments that would adversely affect their special interests.
BNH 8	Recognise and protect the significant geological value of sites in County Laois and safeguard these sites, in consultation with the Geological Survey of Ireland and in accordance with the National Heritage Plan and "Geological Heritage Guidelines for the Extractive Industry".
BNH 9	Engage with the National Parks and Wildlife Service to ensure Integrated Management Plans are prepared for all Natura sites (or parts thereof) and ensure that plans are fully integrated with the County Development Plan and other plans and programmes, with the intention that such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities.
BNH 10	Support the objectives of the All Ireland Pollinator Plan 2015-2020 by

^[1] Except as provided for in **Article 6(4)** of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the project to proceed; and c) Adequate compensatory measures in place.

	encouraging the planting of pollinator friendly trees and plants within grass verges along public roads and existing and future greenways, new hedgerows, public parks and public open spaces in towns and villages, including part of mixed use and residential developments
BNH 11	Support measures to protect Swift population such as the creation of Swift nest cavities in all new commercial and public buildings (schools/libraries, etc).

Development Management Standard for Designated Sites

DM BNH 1	<p>DEVELOPMENTS IN PROXIMITY TO PNHA</p> <p>Where a development is of a significant scale or in close proximity to a pNHA, the Council will require an Ecological Impact Assessment to determine the impact of the proposed development on the designated site or natural heritage.</p>
DM BNH 2	<p>APPROPRIATE ASSESSMENT</p> <p>Article 6(3) and 6(4) of the Habitats Directive requires an Appropriate Assessment of any plan or project whether within or outside a designated Natura 2000 site, which does not directly relate to the management of the site but may impact upon its conservation objectives. All planning applications shall be screened for Appropriate Assessment and a Phase II Appropriate Assessment carried out if necessary.</p> <p>Where full Appropriate Assessment is required, the assessment shall be based on best scientific knowledge, by a person with ecological expertise. It shall address the potential impacts of the plan or project on the conservation objectives of any Natura 2000 site. The impacts assessed must include the indirect and cumulative impacts of approving the plan or project, considered with any current or proposed activities, developments or policies impacting on the site. The potential impacts of policies outside Natura 2000 sites but potentially impacting upon them (known as ‘ex situ’ impacts) must also be included in the assessment. (Refer to: Appropriate Assessment of Plans and projects in Ireland, Guidance for Planning Authorities, DEHLG (2009).</p>

11.5 GREEN INFRASTRUCTURE (GI)

Green Infrastructure is broadly defined as “as a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings¹. Similarly Blue infrastructure refers to a network of assets which are linked to water such as rivers, canals, lakes, reservoirs, ponds and wetlands.

The GI network is a network of parks, green spaces, gardens, woodlands, rivers and wetlands, as well as urban greening features such as street trees and green roofs, which is planned, designed and managed as a multifunctional resource capable of delivering a wide range of economic, environmental and quality of life benefits for local communities:

- promote healthier living, providing spaces for physical activity and relaxation
- address climate change adaptation

¹ European Union (2013): Building a Green Infrastructure for Europe

- create a strong sense of place
- filter pollutants to improve air and water quality
- make streets clean, comfortable and more attractive to encourage walking and cycling
- store carbon in soils and woodlands
- create better quality and better-connected habitats to improve biodiversity and resilience
- promote local food production in allotments and gardens

The multiple benefits of GI are recognised in a number of national policy documents:

- The National Biodiversity Plan sees GI as crucial to achieving biodiversity targets and developing ecological corridors that allow the movement of species through their entire natural habitat.
- The Strategy for the Future Development of National and Regional Greenways focuses on the economic and social benefits of creating and connecting greenways, particularly in rural areas.
- The Flood Risk Management Guidelines highlight GIs key role in managing flood risk and adapting to climate change.
- The Regional Spatial and Economic Strategy for the Eastern and Midlands Region recognises the strategic importance of developing GI assets across the region with specific objectives (RPO 7.22 and 7.23) that development plans and local area plans shall identify, protect, enhance, provide and manage Green Infrastructure in an integrated and coherent manner. Linking strategic natural assets with cultural and heritage assets further enhances the opportunities for GI strategies to drive recreation and tourism benefits.

Specific to County Laois, the following GI, Cultural and Natural assets have been identified:

Table 11.4 Strategic Natural Assets

ASSET	LOCATION
Lakes, Rivers and Canals	River Barrow, River Nore
Greenways, Blueways and Peatways	Barrow Blueway
Uplands, Woodlands and Designated Sites	Slieve Blooms (all SACs, SPAs, NHAs, pNHAs and Ramsar sites)
Boglands and Peatlands	Abbeyleix Bog
National and Regional Parks	Emo Court, Heywood Gardens
Medieval, Historic and Walled Towns	Abbeyleix
Heritage Sites	Sites on Record on National Monuments

11.5.1 URBAN GREEN INFRASTRUCTURE

In towns and villages, GI is a patchwork of natural areas that provides habitat, flood protection, cleaner air and cleaner water. Each town and village in the County should include urban GI to create corridors between and link green spaces, creating healthier environments and a greater sense of place. The following elements, many of which are sustainable Urban Drainage Systems, can be integrated into sites to create GI at an urban scale:

- Rainwater Harvesting/Bioswales

- Planter Boxes/Permeable Pavements
- Green Streets/Green Parking
- Green Roofs and Living Walls
- Urban Tree Canopy

11.5.2 GREEN INFRASTRUCTURE STRATEGY FOR LAOIS

It is the Council's intention to develop a Green Infrastructure Strategy for the County in consultation with all key stakeholders and with the public during the lifetime of this Plan. The Strategy will identify key Green Infrastructure aims and objectives for the County taking account of the priority projects identified in this Plan and it will provide for the delivery of these projects including the provision of appropriate funding mechanisms.

Policy Objectives for Green Infrastructure	
BNH 11	Ensure that areas and networks of Green Infrastructure are identified, protected, enhanced, managed and created to provide a wide range of environmental, social and economic benefits to communities.
BNH 12	Develop and implement a Green Infrastructure Strategy for Laois in partnership with key stakeholders and the public which reflects a long-term perspective, including the need to adapt to climate change. Ensure the Green Infrastructure Strategy for Laois protects existing Green Infrastructure resources and plans for future Green Infrastructure provision
BNH 13	Require all Local Area Plans and Master Plans to protect, enhance, provide and manage Green Infrastructure in an integrated and coherent manner. Set targets for the provision of Green Infrastructure elements such as trees and green roofs as part of the preparation of Local Area Plans.
BNH 14	Promote a network of paths and cycle tracks to enhance accessibility to the Green Infrastructure network, while ensuring that the design and operation of the routes respect and where possible enhances the ecological potential of each site
BNH 15	Encourage, pursuant to Article 10 of the Habitats Directive, the management of features of the landscape, such as traditional field boundaries and laneways, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species.
BNH 16	To identify and map Green Infrastructure assets and sites of local biodiversity value over the lifetime of the Plan.

Green Infrastructure Development Management Standard

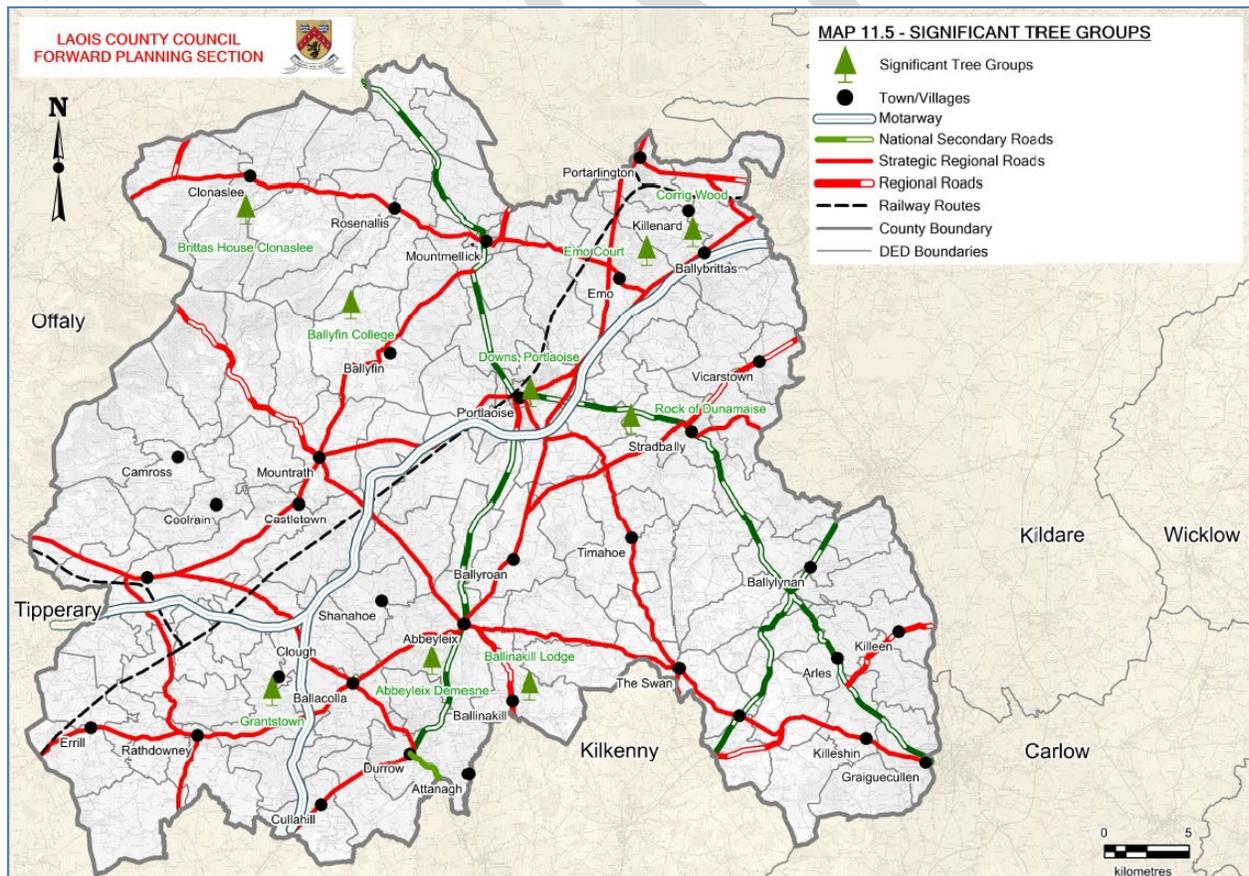
DM BNH 3	GREEN INFRASTRUCTURE PLAN Require all proposals for large scale development such as road or drainage schemes, wind farms, housing estates, industrial parks or shopping centres to submit a Green Infrastructure Plan as an integral part of a planning application.
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11.6 TREES, WOODLANDS AND HEDGEROWS

11.6.1 TREES AND WOODLANDS

Trees play a crucial role in capturing pollutants and particulates from the air. Street trees can significantly improve air quality, which can in turn provide health benefits, if planned, planted and maintained carefully. Carbon storage relates to the carbon currently held in trees' tissue (roots, stem, and branches), whereas carbon sequestration is the estimated amount of carbon removed annually by trees. Trees can help mitigate climate change by sequestering atmospheric carbon as part of the carbon cycle. Trees and woodlands make a positive contribution to the county's landscape biodiversity and townscapes providing wildlife habitats, soften hard urban edges and provide scale and backdrops to streets and buildings. Trees, either individually or in groups also make an important contribution to the landscape of many of the country house demesnes throughout the county. In urban settings trees or groups of trees can contribute significantly to the local landscape or townscape and to the successful integration of new buildings into the landscape. The planting or retention of mature trees can contribute to amenity and more attractive developments as well as providing important wildlife habitats. The retention of trees should be considered at the design stage of any development. They also filter out noise, dust and pollutants and prevent flooding by retaining moisture. A number of important tree groups have been identified in Map 11.5 and will be considered for Tree Preservation Orders (TPOs) during the Plan period. Further assessment of important trees and groups of trees will also be considered during Local Area Plan reviews.

Map 11.5: Trees, Views and Prospects



11.6.2. HEDGEROWS

Hedgerows define rural landscapes and are valuable for terrestrial forms of wildlife. They are particularly important for birds and woodland plants. They provide commuting and feeding corridors for bats. Where they are found in settlements they are significant habitats and corridors for biodiversity.

Hedgerows also provide effective farmland barriers and boundaries, as well as vital habitats and landscape corridors for a vast array of native plants and wildlife. Most hedgerows were planted over the last 300 years or so following the enactment of legislation in the 18th century requiring landowners to enclose their land. However, heritage hedgerows which are considerably older than the majority of hedgerows often have strong links with native woodland that date back thousands of years and are of even greater biodiversity and historical value

Good hedgerows can easily be identified by their structure and location in the landscape. Best quality hedgerows will have all the following characteristics:

- A few mature trees,
- A three tier structure (with trees, shrubs and herbs)
- Few gaps and
- Will not have been cut into a box shape. Shrubs (almost always) include hawthorn, blackthorn or and possibly dog rose.
- The herb layer is found under the shrub layer. It should form a strip of tall grassland along the margin of the hedgerow.

There is an extensive network of hedgerows throughout County Laois. There will be a firm presumption against the removal of hedgerows to facilitate development including where sight lines are deficient. In cases where removal is necessary, the planting of an equivalent length of native hedgerow will be required as a condition of planning permission. Further policy objectives in relation to the management of hedgerows for development is also provided in Chapter 4 Housing and Chapter 10 Infrastructure.

Policy Objectives for Trees, Woodlands and Hedgerows	
BNH 17	Undertake a study within the lifetime of the Plan and for all Local Area Plans to document and map trees and groups of trees that require preservation and prepare Tree Preservation Orders for individual trees, groups of trees or woodland areas where expedient and in the interests of visual amenity, biodiversity and the environment.
BNH 18	Protect individual trees, groups of trees and woodland in the interests of landscape conservation (including townscapes) and nature conservation as part of the development management process
BNH 19	Protect existing hedgerows, particularly of historical and archaeological importance of townland boundaries, from unnecessary removal in order to preserve the rural

	character of the countryside and promote biodiversity
BNH 20	Ensure that hedgerow removal to facilitate development is kept to an absolute minimum and, where unavoidable, a requirement for mitigation planting will be required comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking in to existing adjacent hedges. Native plants of a local provenance should be used for any such planting
BNH 21	Promote and develop urban forests in parkland and street trees in urban settlements to enhance public realm and increase tree canopy coverage and diversity.
BNH 22	Ensure that hedgerow and mature tree removal to facilitate development is kept to an absolute minimum and, where unavoidable, a requirement for mitigation planting will be required comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking in to existing adjacent hedges. Native plants of a local provenance should be used for any such planting

Trees, Woodland and Hedgerows Development Management Standards

DM BNH 4	<p>MATURE TREES</p> <p>Where there are trees within an application site, or on land adjacent to it that could influence or be affected by proposed development (including street trees), the planning application must include a detailed submission prepared by a suitably qualified Arboriculturist in accordance with British Standard 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.</p> <p>A Tree Management Plan shall be provided to ensure that trees are adequately protected during development and incorporated into the design of new developments.</p>
DM BNH 5	<p>HEDGEROWS</p> <p>In dealing with applications for new developments, the Planning Authority will have regard to the following:</p> <ol style="list-style-type: none"> a. Retention of a connected network of good quality hedgerows; b. The value of hedgerows as green infrastructure (landscape, biodiversity, shelter, supporting services to agriculture/horticulture); c. The avoidance of the unnecessary removal of hedgerows; d. If it is necessary to remove a hedgerow, developers should be reminded of their obligations under the Wildlife Acts not to remove or interfere with them during the bird nesting season, between March 1st and 31st August. Also, replacement or compensatory planting of hedgerows using indigenous species such as whitethorn or blackthorn only will be required; e. Proposals to integrate hedgerows into the layout of a new linear feature such as a road/ pedestrian/cycle track;

- f. Depending on the potential risks of anti-social activity or requirements for a more garden look the margins of these new hedgerows/woodlands/new shrubberies could be planted with colourful non natives (for amenity) or spiny shrubs to deter vandals.
- g. By occasionally mowing the grass margin of hedgerows (or part of it), they will look managed. As litter will accumulate in long grass along their margins arrangements will have to be made to carry out regular clean ups;
- h. Encouragement should be given to develop a new linear feature of biodiversity value such as a hedgerow or dry stone wall, particularly if this type of habitat is found adjacent to the development site;
- i. The use of native tree and shrub species similar to those found in adjacent hedgerows in new or replacement hedgerows;
- j. The wholesale removal of hedgerows to facilitate the achievement of adequate sightline visibility for one-off houses in the countryside will not be encouraged.

11.7 WATERWAYS AND WETLANDS

The rivers and streams, lakes, wetlands and groundwater occurring within County Laois are home to a variety of habitats and species. Wetlands associated with rivers and streams, such as wet grasslands and marshes, are important for biodiversity and to help manage fluvial and pluvial flooding whilst supporting a quality, multi-functional green network generating multiple benefits for the environment, tourism and society.

The waterways of County Laois include the Barrow, Nore and Erkina which flow in a northwest-southeast trajectory and there are minor man-made lakes at Ballyfin, Grantstown and Heywood. The Barrow Blueway Project which is set to begin works in July 2020, is a coordinated project between Waterways Ireland, Laois County Council and Kildare County Council of the River Barrow Navigation system from Lowtown in Kildare, through the towns of Rathangan, Monasterevin, and Vicarstown to Athy. The planned upgrade is to provide a multi-use shared 46km off-road, flat accessible, public space and leisure route. In time this route could extend on to St Mullins in Carlow.

The Grand Canal is a key element of Green Infrastructure in the County also passes through the north east of the county where it links to the wider River Barrow navigation system, the towpath of which provides an uninterrupted corridor for pedestrians and cyclists. The Mountmellick Line of the Grand Canal, built between 1827 and 1831, runs from the Barrow Line at Monasterevin via Portarlinton to Mountmellick.

Wetland habitats are an important source of biodiversity and contain species such as otters (*Lutra lutra*), Salmon (*Salmo salar*), Kingfishers (*Alcedo atthis*), Freshwater crayfish (*Austropotamobius pallipes*) and Lamprey species, all protected under the Wildlife Acts of 1976 and 2000 and/or listed on the annexes of the EC Habitats Directive and Birds Directive. County Laois is particularly important for the Nore Pearl Mussel "*Margaritifera durrovensis*" and special mention is made of this species throughout the Plan and SEA. The species is protected under the Freshwater Pearl Mussel Nore Sub-Basin Management Plan [2009]. The Slieve Bloom Mountains are also designated as a Ramsar Site which is a site designated internationally for the conservation of wetlands, particularly those of importance to waterfowl under The

Convention on Wetlands of International Importance especially as Waterfowl Habitat, the so-called Ramsar Convention.

Policy Objectives for Waterways and Wetlands	
BNH 23	Protect waterbodies and watercourses from inappropriate development, to ensure they are retained for their biodiversity and flood protection values and to conserve and enhance where possible, the wildlife habitats of the County's rivers and riparian zones, lakes, canals and streams which occur outside of designated areas to provide a network of habitats and biodiversity corridors throughout the county.
BNH 24	Promote and develop the Barrow Blueway initiative and work with State Agencies, landowners, local communities and other relevant groups to protect and manage inland waters, river corridors and their floodplains from degradation and damage, and to recognise and promote them as natural assets of the urban and rural environment
BNH 25	Facilitate the development of the Grand Canal for cycling, walking and nature study. Investigate the possibility of developing long distance walking routes/Greenway, within the lifetime of the Plan, along the disused Mountmellick Grand Canal Line.
BNH 26	Protect riparian corridors by reserving land along their banks for ecological corridors and maintain them free from inappropriate development. Where developments are proposed adjacent to waterways in previously undeveloped areas, the Planning Authority will require a general setback distance of a minimum of 10 metres from the waterways edge, subject to site-specific characteristics and the nature and design of the development. In previously developed areas, for example, within town centres, this general setback distance is likely to be reduced and should be part of any pre-planning consultations with the Council.
BNH 27	Require that development along rivers set aside lands for pedestrian routes and cycleways that could link to the broader area and established settlements in the area.
BNH 28	Provide for public access to waterways where feasible and appropriate, in partnership with the National Parks and Wildlife Service (NPWS), Waterways Ireland and other relevant stakeholders, whilst maintaining them free from inappropriate development, subject to Ecological Impact Assessment and Appropriate Assessment, as appropriate.
BNH 29	Protect the Nore Pearl Mussel through the measures set out in the Freshwater Pearl Mussel Nore Sub-Basin Management Plan (2009).
BNH 30	Protect the migration of fish in the River Barrow Nore SAC from high risk barriers such weirs and bridge sills.

11.8 PEATLANDS

Peatlands are one of the world's most important ecosystems, covering a mere 3% of the world's terrestrial surface and 20% of Ireland's land area, containing 550 gigatonnes of carbon, making them the most important long term carbon sinks in the terrestrial biosphere. Peatland rehabilitation will also bring additional benefits of improving water quality and flood attenuation to downstream water-courses.

The majority of larger peatland areas in the county are located in the north west within the Slieve Blooms and mid area of the County to the south and south west of Portlaoise. Approximately 3,000 ha of peatland is under the ownership of Bord Na Mona with much of the land utilised for industrial peat extraction for decades and consequently much of the overlying peat deposits has been cutaway.

As Bord Na Mona transition away from commercial peat production and decarbonise business structures, the rehabilitated cutaway will naturally revert to a rich and diverse natural habitat enhancing biodiversity and supporting other ecosystem services by integrating other sustainable land-uses, including renewable energy and Green Infrastructure.

Examples of Bord na Móna enabled Green Infrastructure in the county include the restored Abbeyleix bog (190ha), which is now leased to the local community as a conservation project and forms part of a Natural Walking Loop. Bord na Móna also restored Knockahaw Bog (Errill Bog) in 2018 as part of its Biodiversity Action Plan and peatland rehabilitation commitments. Knockahaw Bog is a relatively large restored raised bog of 312 ha located on the south east range of raised bog distribution in Ireland. Both Abbeyleix Bog and Knockahaw Bog are examples of high value biodiversity sites which can be prioritised for similar tracts of boglands.

Further details on the reuse of peatlands are provided in Section 9.4 of the Plan.

Policy Objectives for Peatlands	
BNH 31	The County Development will continue to support the objectives of the <i>Strategic Framework for the Future use of Peatlands</i> which identifies new potential future land uses and also seek to progress opportunities under Just Transition Fund.
BNH 32	Protect the county's designated peatland areas and landscapes and to conserve their ecological, archaeological, cultural, and educational heritage.
BNH 33	Work with relevant agencies such as Eastern and Midland Regional Assembly, Bord na Mona, NPWS, Coillte and adjacent Local Authorities to prepare an integrated afteruse framework and management plans for the peatlands and related infrastructure,
BNH 34	Support the preparation of a Sustainable Holistic Management Plan for the future use of the Industrial Peatlands in the County, which recognises the role of peatlands in carbon sequestration.
BNH 35	Support the designation of a National Park for the peatlands area in the Midlands in conjunction with adjoining Local Authorities.

BNH 36	Undertake a feasibility study to identify peatways, where appropriate and examine the tourist potential of same such as a peatway link from Portarlington to the Grand Canal and River Barrow Greenway.
BNH 37	Support relevant agencies to provide for the future sustainable and environmentally sensitive use of large industrial peatlands at Cuil Na Mona.

Development Management Standard for Peatlands

DM BNH 6	<p>PEATLANDS</p> <p>In the consideration of development on or adjacent to peatland areas, the following guiding principles should apply:</p> <ul style="list-style-type: none"> • Consideration of the potential contribution of peatlands to climate change mitigation and adaptation including renewable energy production; Offaly County Development Plan 2021-2027: Draft Stage Chapter 13 Development Management Standards 402 • Consideration of habitats and species of environmental significance; • Consideration of the potential contribution of peatlands to an existing or proposed greenway / blueway / peatway network; • Consideration of the ecosystem services and tourism potential provided by peatlands; • Development of peatlands shall ensure that there are no negative impacts on water quality and hydrology; • Consideration of peatland stability; • Achieving of a carbon emissions balance; and • Incorporation of fire mitigation measures such as fire breaks or ensuring access points and routes are suitable for travel by emergency services.
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11.9 PUBLIC RIGHTS OF WAY

As the population of the county grows and people become more aware of the importance of our built and natural heritage, the issue of access to the countryside and to heritage sites has become increasingly important. The formal process for designating rights of way is outlined in Section 14 of the Planning and Development Act 2000 (as amended).

Section 10(2)(o) of the Planning and Development Acts 2000 as amended state that a Development Plan shall include an objective for ‘the preservation of public rights of way which give access to seashore, mountain, lakeshore, riverbank or other place of natural beauty or recreational utility, which public rights of way shall be identified both by marking them on at least one of the maps forming part of the development plan and by indicating their location on a list appended to the development plan’.

Existing public rights of way constitute an important amenity and the Council recognises the importance of maintaining established public rights of way and supporting initiatives for establishing walking routes in the county.

This is, by its nature, a lengthy process which will be conducted throughout the lifetime of this Development Plan. Table 11.5 below provides a list and Map 11.6 shows the extent and

9 Heritage, Culture and the Arts

Strategic Aim: To seek the protection and sustainable management of the arts, culture and heritage of Kilkenny for the benefit of current and future generations; to encourage the collection of knowledge to inform its protection; and to promote access to, awareness of and enjoyment of Heritage, Arts and Culture, to further develop the infrastructure and actively support engagement with communities. throughout Kilkenny.

9.1 Introduction

County Kilkenny has a rich and varied built, natural and cultural heritage resource. Landscapes, rivers, woodlands, hedgerows, geology, plants and animals are all part of our natural heritage. Archaeological sites and many other buildings and structures such as houses, shops, churches, bridges and mills are features of our built heritage. Our cultural heritage includes aspects of heritage such as traditions, practices, knowledge and skills, which are an expression of our culture.

Kilkenny's heritage is that which makes the county unique, what gives it its special character and its 'sense of place'. Heritage has many values including economic, social, environmental and cultural¹. It is vital for the health, well-being and quality of life of communities. It is a valuable economic resource. It underpins Kilkenny's tourism and agricultural sectors, and brings significant economic benefits to the county and its residents. Protecting and enhancing our heritage is vital to the health, well-being and quality of life of our communities. County Kilkenny's heritage plays a key role in planning for climate change in the county. It will be affected by changes in climate, and it also has the capacity to be part of our climate adaptation and resilience strategies.

The *National Heritage Plan* and the *National Biodiversity Action Plan* recognise the key role that local authorities, and locally-led action, plays in heritage awareness and management. A key element of both plans is an enhanced role for local authorities in heritage management, to be given effect through the preparation and implementation of County Heritage Plans and Biodiversity Action Plans. The County Kilkenny Heritage Plan and County Kilkenny Biodiversity Plan are incorporated in the *Kilkenny County Council Cultural Strategy 2018-2022*².

Under this remit the Council will support the implementation of the *National Heritage Plan* (Heritage 2030, in preparation) and the *National Biodiversity Action Plan 2017-2021* (and subsequent plans). It will seek the protection and sustainable management of the heritage of County Kilkenny for the benefit of current and future generations. Through its policies and actions, the Council will promote increased awareness of the heritage of the county.

¹ Ecorys and Fitzpatrick and Associates, *Valuing Heritage: Scoping Study. A report to Kildare, Kilkenny and Meath County and Cork City Councils*, 2015

² Kilkenny County Council, *Cultural Strategy 2018 - 2022*

The Council will support the implementation of the *National Heritage Plan* and *National Biodiversity Action Plan*. The Council will prepare and implement, in partnership with the Kilkenny Heritage Forum and all relevant stakeholders, a County Heritage Plan and County Biodiversity Action Plan. The Council will also support the implementation of key legislation and national and local policies, programmes and plans which identify, protect and promote Kilkenny's heritage³.

It is the aim of the Council to develop and support programmes which encourage active participation in identifying, recording, protecting, communicating and enjoying Kilkenny's heritage⁴.

9.2 Natural Heritage and Biodiversity

Natural heritage, also referred to as biodiversity, includes the variety of life around us. It comprises all plants and animals (including humans), fungi, algae and micro-organisms, the habitat where they live and their genetic diversity. It also includes the physical and geological foundation that forms landscapes.

Biodiversity is important because all of life depends on biodiversity for survival. Our biodiversity underpins important economic sectors such as agriculture, tourism and recreation and is a core component of the county's green infrastructure. Protection and wise use of the county's natural resources is necessary to achieve sustainable development. The Council will support the implementation of the *Biodiversity Climate Change Sectoral Adaptation Plan*⁵.

It is the aim of the Council to conserve, sustainably manage and enhance the County's natural heritage and biodiversity and to promote understanding of and sustainable access to it.

A number of areas in County Kilkenny have been identified as being of exceptional importance for biodiversity at a national and/or international level (See Table 9.1 and Figure 9.1). These areas are protected through national and European legislation. In addition, certain plant, animal and bird species found in the county are considered rare or vulnerable and are protected by Irish law.

The Council recognises the important role of the environment through diversity, quality, integrity and quality of life by promoting the protection, conservation and enhancement of the natural environment and will promote appropriate enhancement of the natural environment as an integral part of all development.

9.2.1 Protected habitats and species designated for nature conservation

9.2.1.1 European Sites (*Natura 2000*)

The EU Habitats Directive (92/43/EEC) and EU Birds Directive (2009/147/EC) provide for the conservation and protection of breeding and resting sites for rare and threatened species, and rare habitat types in a European context considered to be most in need of conservation. Such sites form

³ ibid

⁴ ibid

⁵ Department of Culture, Heritage and the Gaeltacht, *Biodiversity Climate Change Sectoral Adaptation Plan*, 2019

part of an EU network of ecologically important and protected sites known as Natura 2000 sites and comprise:

- **Special Areas of Conservation (SACs)** – these sites are selected for the conservation and protection of plant and animal species (other than birds) and habitats listed in Annex I and Annex II of the EU Habitats Directive (92/43/EEC) respectively.
- **Special Protection Areas (SPAs)** – these sites are selected for the conservation and protection of birds and their habitats designated under the EU Birds Directive 2009 (2009/147/EC) (first adopted in 1979) and transposed into Irish law by the Conservation of Wild Birds Regulations (SI 291 of 1985).

There are 8 Natura 2000 sites within the County (see Table 9.1 and Figure 9.1). The National Parks and Wildlife Service, Department of Housing, Local Government and Heritage identify, evaluate and propose sites for designation. The boundaries of protected areas may change and/or new sites may be proposed for designation during the lifetime of this Plan. Up-to-date information on boundaries and details of designated sites is available on the National Parks and Wildlife Service website (www.npws.ie).

As set out in Chapter 1, the Council will ensure that an Appropriate Assessment, in accordance with Articles 6(3) and Article 6(4) is carried out in respect of any plan or project not directly connected with or necessary to the management of the site, but likely to have a significant effect on a Natura 2000 site(s), either individually or in combination with other plans or projects, in view of the site's conservation objectives.

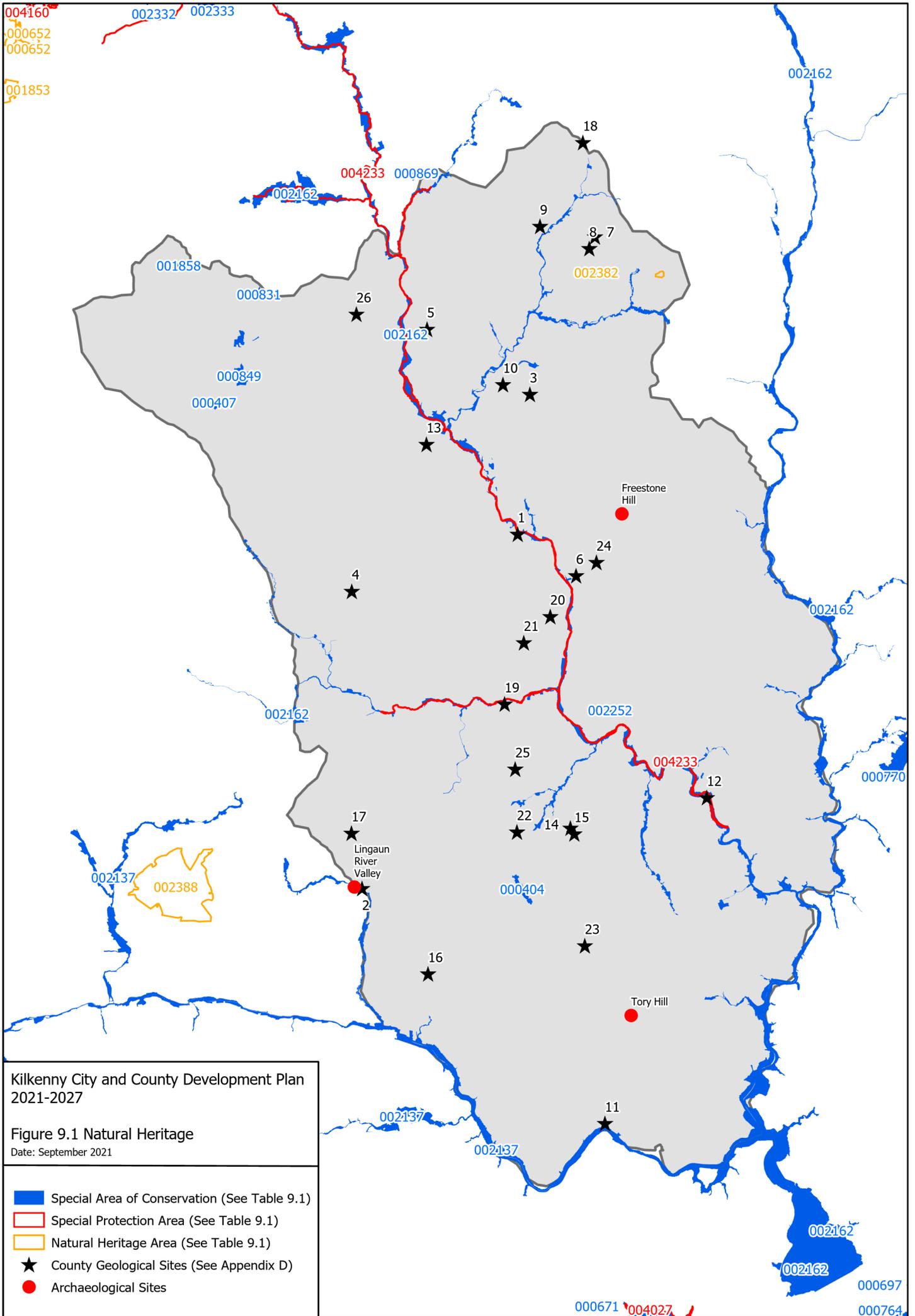
There are a number of overlaps between areas zoned for development and/or areas within settlement boundaries and European Sites (Special Areas of Conservation and Special Protection Areas). These European Sites are protected from inappropriate development under the European Habitats and Birds Directives, transposing national legislation and various provisions under this Plan. The protection of the integrity of European Sites as per these requirements will take primacy over other Plan provisions.

Visitor and Habitat Management

The Council will seek to control the impact of visitor numbers in order to avoid significant effects including loss of habitat and disturbance, including ensuring that new any projects, such as greenways, are a suitable distance from ecological sensitivities, such as riparian zones. As per Section 1.3, all projects that may have a significant effect on any Natura 2000 site, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. Control measures may include ensuring that new projects and activities are a suitable distance from ecological sensitivities. Visitor/Habitat Management Plans will be required for projects as relevant and appropriate.

Integrated Management Plans for European Sites

The Council shall be available to engage with the NPWS with the objective of achieving the preparation and implementation of Integrated Management Plans, informed as appropriate by comprehensive species surveys, for sites within the County, including those which are designated for Kingfisher and Otter. Such Plans would establish the necessary conservation measures for European sites in line with the Habitats Directive and be integrated with other plans and programmes, with the intention that



such plans are practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations, including those of local communities.

Development Management Requirements

AAs for Recreation

AAs for recreational projects that have the potential to affect the integrity of any European site shall demonstrate that potential direct, indirect and cumulative effects including in relation to the following issues, have been adequately mitigated, where they exist:

- Hard infrastructure in riparian zones;
- Increased recreational access;
- Species and populations of conservation concern, such as Kingfisher and Otter where relevant; and
- Water quality

9.2.1.2 Natural Heritage Area

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) are designated under the Wildlife (Amendment) Act 2000 and encompass nationally important semi-natural and natural habitats, landforms and geomorphological features. There are 34 Natural Heritage Areas in the county. See Table 9.1 and Figure 9.1.

9.2.1.3 Statutory Nature Reserve

A Nature Reserve is an area of importance to wildlife which is protected under Ministerial order. Most are owned by the State. There are 4 Statutory Nature Reserves in the county. See Table 9.1 and Figure 9.1.

9.2.1.4 Wildfowl Sanctuary

Wildfowl Sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. Shooting of game birds is not allowed in these sanctuaries. There are 2 wildfowl sanctuaries in the county. See Table 9.1 and Figure 9.1.

9.2.1.5 Protected Plant and Animal Species

Certain plant, animal and bird species are protected by law. These includes plant species listed in the Flora (Protection) Order 2015 (S.I. No. 356 of 2015) (or other such Orders) and animals and birds listed in the Wildlife Act, 1976 and subsequent statutory instruments, those listed in Annex IV of the Habitats Directive (92/43/EEC), and those listed in Annex I of the Birds Directive.

The Planning Authority will consult with the National Parks and Wildlife Service (a) in respect of any proposed development where there is a possibility that such development may have an impact on a protected area of international or national importance, and (b) take account of any licensing requirements, when undertaking, or approving development which is likely to affect plant, animal or bird species protected by national or European legislation.

The Council will protect and, where possible, enhance the natural heritage sites designated under EU legislation and national legislation (Habitats Directive, Birds Directive, European Communities (Birds

and Natural Habitats) Regulations 2011 and Wildlife Acts). This protection will extend to any additions or alterations to sites that may arise during the lifetime of this plan. The Council will also protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI94 of 1999).

Development Management Requirements:

- Ensure that an ecological impact assessment is carried out, by suitably qualified professional(s), for any proposed development likely to have a significant impact on rare and threatened species including those species protected by law and their habitats. Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.

Table 9.1 Protected Habitats of International and National Importance

Site Name	Site Code/Ref	SAC	SPA	pNHA	SNR	WF
Cullahill Mountain	000831	✓				
Hugginstown Fen	000404	✓		✓		
Galmoy Fen	001858	✓		✓		
Lower River Suir	002137	✓				
River Barrow & River Nore	002162	✓		✓		✓
River Nore	004233		✓			
Spa Hill & Clomantagh Hill	000849	✓				
The Loughans	000407	✓				
Thomastown Quarry	002252	✓				
Archersgrove	002051			✓		
Ardaloo Fen	000821			✓		
Ballykeeffe Woodland	000400			✓	✓	
Barrow River Estuary	000698			✓		
Brownstown Wood	000827			✓		
Clohastia	000830			✓		
Coan Bogs*	002382			✓		
Dunmore Cave	000401			✓		
Dunmore Complex	001859			✓		
Esker Pits	000832			✓		
Fiddown Island	000402			✓	✓	
Garryrickin Nature Reserve	000403			✓	✓	
Grannyferry	000833			✓		
Ice House near Inistioge	002094			✓		
Inchbeg	000836			✓		
Inistioge	000837			✓		

Kilkeasy Bog	000839			✓		
Kyleadahir Wood Nature Reserve	000405			✓	✓	
Kylecorragh Wood	000842			✓		
Lough Cullin	000406			✓		✓
Lough Macask	001914			✓		
Mothel Church, Coolcullen	000408			✓		
Mount Juliet	000843			✓		
Murphy's of the River	000844			✓		
Newpark Marsh	000845			✓		
Rathsnagadan Wood	000409			✓		
Red Bog, Dungarvan	000846			✓		
Thomastown	000410			✓		
Tibberaghny Marshes	000411			✓		
Whitehall Quarries	000855			✓		

See www.npws.ie for further information.

* refers to the fact that Coan bog is an NHA, not a pNHA

9.2.2 Biodiversity Outside of Habitats Designated for Nature Conservation

Much of the biodiversity in the county occurs in the wider countryside, i.e., in areas which are not subject to legal protection under National or EU biodiversity law. These habitats and features are particularly important in contributing to the biodiversity, landscape value and sense of place of the county. They provide vital links and corridors to allow the movement of plant and animals between the network of protected sites. These features include: hedgerows, ditches and banks, stone walls, woodlands, estates and parklands, rivers, streams and associated riparian zones, reservoirs, ponds and canals. Such corridors or interconnected networks are the basis of our Green Infrastructure.

Article 10 of the Habitats Directive outlines the obligations of EU member states in relation to natural heritage in the wider countryside. It provides that through land use planning and development policies, Planning Authorities shall endeavour to improve the ecological coherence of the Natura 2000 network and encourage the management of landscape features that are of major importance for wild fauna and flora. Such features are those which, by virtue of their function and structure are essential for the migration, dispersal and genetic exchange of wild species and form part of the network of green infrastructure.

Kilkenny County Council has commissioned, and continues to commission, habitat assessments and Green Infrastructure surveys of a number of towns, villages, and habitats throughout the county, including Kilkenny City, Gowran, Fiddown, Piltown, Johnstown, Urlingford, Ballyragget, Ballyhale, Mooncoin, Thomastown, and Knocktopher. The findings of these surveys are vital to improving our understanding of biodiversity resource in the county and will be used to inform the development management process.

Objective

- 9A Continue to identify and map habitats and green infrastructure of county importance, and raise awareness and understanding of the county's natural heritage and biodiversity identifying green corridors and measures to connect them.**

Development Management Requirements:

- To ensure that development proposals, where relevant, improve the ecological coherence of the Natura 2000 network and encourage the retention and management of landscape features that are of major importance for wild fauna and flora as per Article 10 of the Habitats Directive.
- To protect and where possible enhance wildlife habitats and landscape features which act as ecological corridors/networks and stepping stones, such as river corridors, hedgerows and road verges, and to minimise the loss of habitats and features of the wider countryside (such as ponds, wetlands, trees) which are not within designated sites.
- To ensure that appropriate mitigation and/or compensation measures to conserve biodiversity, landscape character and green infrastructure networks are required in developments where habitats are at risk or lost as part of a development.

9.2.3 Green Infrastructure

Green Infrastructure can be defined as strategically planned and interconnected networks of green space and water capable of delivering ecosystem services and quality of life benefits. Green Infrastructure can include parks, open spaces, rivers, farmland, playing fields, woodlands, allotments and private gardens which surround and intersperse our towns and villages. The National Planning Framework (NPF) highlights the importance of the interrelationships between biodiversity, natural heritage, landscape and our green spaces. The NPF states that integrated planning for green infrastructure and ecosystem services will be incorporated into the preparation of statutory land use plans. It should be designed and managed as a multifunctional resource capable of delivering a wide range of economic, environmental and quality of life benefits for local communities including:

- adaptation to the impacts of climate change and flooding
- high-quality environment which can attract investment and new business
- places for people to access nature, outdoor recreation and for social interaction
- local food production - in allotments, gardens and through agriculture
- space for nature and wildlife to flourish
- a sense of place and local distinctiveness
- a resource for environmental education

Green Infrastructure planning has a significant role to play in assisting in the protection of Natura 2000 sites, biodiversity in the wider countryside and climate resilience. The Council's Land Use Plans will protect, manage and provide, where possible, green infrastructure in an integrated and coherent manner.

Objective

9B To identify and map green infrastructure assets and sites of local biodiversity value over the lifetime of the Plan.

Development Management Requirement:

- **Require all developments in the early pre-planning stage of the planning process to identify, protect and enhance ecological features and habitats, and making provision for local biodiversity (e.g. through protection of existing breeding sites, and provision of appropriate new infrastructure such as swift, bat and barn owl boxes, bat roost sites, green roofs, etc.) and provide links to the wider Green Infrastructure network as an essential part of the design process.**

9.2.4 Geological Heritage

The Geological Survey of Ireland (GSI) has assessed the geological heritage of County Kilkenny and identified sites of geological and geomorphological importance, and recommended their protection as County Geological Sites⁶ (See Appendix D). Some of these sites may in future be designated by the Department of Housing, Local Government and Heritage and the GSI as Natural Heritage Areas (NHAs) because of their geological interest from a national perspective. In the interim, the Council will seek to maintain the geological value of these sites and to protect, and where appropriate, enhance their geological and geomorphological heritage values. The locations of the sites are shown on Figure 9.1.

The Council will consult the Geological Survey of Ireland when considering undertaking, approving or authorising developments which are likely to affect County Geological Sites. In some locations, in consultation with landowners, it may be possible to access geological and geo-morphological features of interest, and the Council will support and facilitate this where appropriate.

9.2.5 Woodland, Trees and Hedgerows

Woodlands and trees contribute significantly to the biodiversity and landscape character of the county. They are a vital part of a network of habitats, ecological ‘corridors’ and ‘stepping stones’ essential for wildlife to flourish and move between and within habitats. They have a vital role to play in climate adaptation. They filter out noise, dust and pollutants and help minimise flooding by retaining moisture.

Useful databases and sources of information on woodlands and trees in County Kilkenny include:

⁶ Clarke, A., Parkes, M. & Gatley, S. 2007. *The Geological Heritage of Kilkenny. An audit of County Geological Sites in Kilkenny*. Geological Survey of Ireland. Unpublished Report.

<https://www.gsi.ie/ga-ie/publications/Pages/The-Geological-Heritage-of-Kilkenny.aspx>

- Ancient woodlands are areas which have been wooded since 1660. 28 Possible ancient woodlands (PAWS) and long-established woodlands (LEWS) were identified by the NPWS in Co. Kilkenny⁷
- The Tree Register of Ireland (TROI) database of outstanding trees in Ireland compiled by the Tree Council of Ireland identifies significant trees in the county. A copy of the TROI for Kilkenny is available to view from the Parks Department of Kilkenny County Council.
- Woodland Survey of Kilkenny (Kilkenny County Council, 1997) identifies the amenity potential of woodlands in the county. A copy of the survey is available to view from the Parks Department of Kilkenny County Council.
- The National Survey of Native Woodlands (2003-2008) identified and surveyed 58 sites in Kilkenny as part of a National Survey⁸.
- Survey of Mature Trees Kilkenny City, see Appendix F

There are a number of legislative measures which recognise the importance of trees and woodlands and provide for their protection. These include:

- i. Tree Preservation Orders (TPO's)

Under the Planning and Development Act 2000, TPO's allow for the protection of trees, groups of trees and woods of amenity value. Trees, which are the subject of a TPO, cannot be felled unless the owner also obtains planning permission. See Appendix E for list of current TPO's in the county. This list may be added to over the course of this Plan. Consult with the Parks Department of the County Council for the most up-to-date list. The Council will conserve important trees, groups of trees or woodlands, using Tree Preservation Orders, as appropriate.
- ii. Tree Felling

Under the Forestry Act 2014, with certain exceptions, it is illegal to uproot or cut down any tree unless notice of intention to do so has been given in accordance with the Act. The Council will provide guidance to landowners on the legal requirements and procedures in relation to tree felling in order to protect the landscape character and biodiversity of the county.

9.2.5.1 Hedgerows

Hedgerows contribute significantly to biodiversity and landscape character. They have an important farming function, they are wildlife habitats, and corridors, between habitats, and they also have historical significance as townland and field boundaries. Hedgerows are afforded protection under the Wildlife (Amendment) Act, 2000, prohibiting the cutting of hedges within the bird nesting period (1st March -31st August).

Kilkenny County Council has undertaken surveys of hedgerows in a number of areas/settlements around the county, as part of the Habitat and Green Infrastructure Assessments, undertaken to inform Local Area Plans (See Section 9.2.2 Biodiversity Outside of Habitats Designated).

⁷ Department of Environment, Heritage and Local Government, [A provisional inventory of ancient and long-established woodland in Ireland](#), 2010

⁸ BEC Consultants, [National Survey of Native Woodlands 2003-2008](#), 2008

The Council will promote the planting of native tree and shrub species, by committing to using native species (of local provenance wherever possible) in its landscaping work and on County Council property and maximise the opportunity to enhance biodiversity within the City & County during the life time of the plan.

Development Management Requirements:

- To protect existing woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character of the county, and to ensure that proper provision is made for their protection and management, when undertaking, approving or authorising development.
- To ensure that when undertaking, approving or authorising development that sufficient information is provided to enable an assessment of impacts on woodlands, trees, and hedgerows.
- To have regard to, and seek the conservation of identified trees and woodlands from a) the National Survey of Ancient and Long-Established Woodlands, b) the Tree Register of Ireland (c) sites of significance identified in the Kilkenny Woodlands Survey 1997, (d) the National Survey of Native Woodlands, and (e) Survey of Mature Trees in Kilkenny City and Environs, in the assessment of planning applications
- To retain hedgerows, and other distinctive boundary treatment such as stone walls, when undertaking, authorising or approving development; where the loss of the existing boundary is unavoidable as part of development, to ensure that a new hedgerow is planted using native species, and species of local provenance to replace the existing hedgerow and/or that the wall is re-built using local stone and local vernacular design.
- To discourage the felling of mature trees to facilitate development and, where appropriate make use of Tree Preservation Orders to protect important trees and groups of trees which may be at risk or have an amenity, biodiversity or historic value.
- To require the planting of native broadleaved species, and species of local provenance, in new developments as appropriate. See Appendix G for a list of native trees and shrubs.

9.2.6 Inland Waters- Rivers, Streams and Groundwater

The rivers, streams, wetlands and groundwater in County Kilkenny are important riparian zones and are home to a variety of plant and animal species, and are one of the most important biodiversity resources in the county. The Rivers Barrow, Nore and Suir (known collectively as the “Three Sisters”) are the principal rivers flowing through County Kilkenny. They are protected habitats under European legislation. The rivers provide a rich landscape setting for the towns and village of the county and are the primary green infrastructure network in the county. The economic benefits of the rivers are significant. The development of riverside walks has enabled greater access to the waterway corridors, whilst the rivers themselves are used for water-pursuits including angling, boating, canoeing and kayaking, and swimming. The River Nore Heritage Audit (2009-2011) identifies and maps the built, natural and cultural heritage of the River Nore corridor in County Kilkenny (See section 8.4.1.1 River Nore for further details). Groundwater is important for supplying water and maintaining wetlands and river flows in dry periods.

Relevant planning applications shall have regard to the guidance document '*Planning for Watercourses in the Urban Environment*'.

9.2.7 Wetlands

Wetlands include a wide range of habitats including watercourses, marshes, fens, bogs, turloughs, wet woodlands and estuaries. They support a variety of habitats and species, function in the protection of water quality and flood control, are important carbon stores contributing to climate resilience, and provide open space and recreational opportunities. The *County Kilkenny Preliminary Wetland Survey, 2020* provides baseline ecological data on wetland sites in the county.

National planning legislation requires that work or development involving the drainage or reclamation of a wetland greater than 0.1ha needs planning permission. For drainage or reclamation of wetlands greater than 2ha, an Environmental Assessment is required.

The Council will protect, manage and enhance the wetlands of the County having regard to the '*County Kilkenny Preliminary Wetland Survey, 2020*' and subsequent surveys published during the lifetime of this plan. The Council will also ensure that there is an appropriate level of assessment in relation to proposals which involve draining, reclaiming or infilling of wetland habitats.

9.2.8 Peatlands

Peatlands are important ecosystems sustaining a range of animal and plant species. The distribution of peatland in Kilkenny is shown on Figure 9.3. Industrial extraction of peat for energy and horticulture in Kilkenny is limited to a small area in the northwest of the county, adjacent to the Tipperary county boundary. Damage to peatlands can occur from domestic peat extraction, afforestation, wind farms, recreational activities and invasive species. Peatlands may contain archaeological artefacts. The *National Peatland Strategy*⁹ guides peatland management and conservation.

Baunmore Bog has been selected by Bord Na Móna to be part of a project to establish and accelerate the development of native woodland that would have climate action benefits and provide significant new habitat for a wide range of species.

The Council will protect peatlands from inappropriate development having regard to their amenity and biodiversity value and their visual sensitivity.

9.2.9 Pollinators

One third of our bee species are threatened with extinction from Ireland. Habitat loss, loss of food sources, pests and disease, pesticide and climate change all contribute. In addition to their intrinsic value, they are vital to our agricultural and horticultural industries, contribute to our health and wellbeing, and also pollinate up to 78% of flowering plants.

Kilkenny County Council has adopted the All Ireland Pollinator Plan (www.pollinator.ie), a national framework which aims to make Ireland a place where pollinators thrive. The Council will continue to

⁹ Department of Arts, Heritage and the Gaeltacht, [National Peatland Strategy](#), 2015

support the implementation of the All Ireland Pollinator Plan and is committed to undertaking actions to support pollinators in the county.

The Council will in as far as is practicable and affordable manage and restore semi-natural habitats and their native plants on Council land.

9.2.10 Invasive Species

Invasive non-native plant and animal species (animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found) are a significant threat to biodiversity. They can negatively impact on native species, can transform habitats and threaten ecosystems causing serious problems to the environment, buildings and the economy.

Irish legislation makes it an offence to plant, breed, disperse, allow dispersal or cause to grow a range of plant and animal species, or to import or transport these or vector material such as soil or spoil from which they can grow (Articles 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011). The Council will seek to prevent the spread of invasive non-native species.

Development Management Requirements:

- **To require relevant development proposals to address the presence or absence of invasive alien species on proposed development sites and (if necessary) require applicants to prepare and submit an Invasive Species Management Plan where such a species exists to comply with the provisions of the European Communities (Birds and Natural Habitats) Regulations 2011-2015.**
- **For proposals connected to surface water systems, risks associated with the spread of crayfish plague shall be considered and applicants should submit a crayfish plague management strategy where appropriate.**

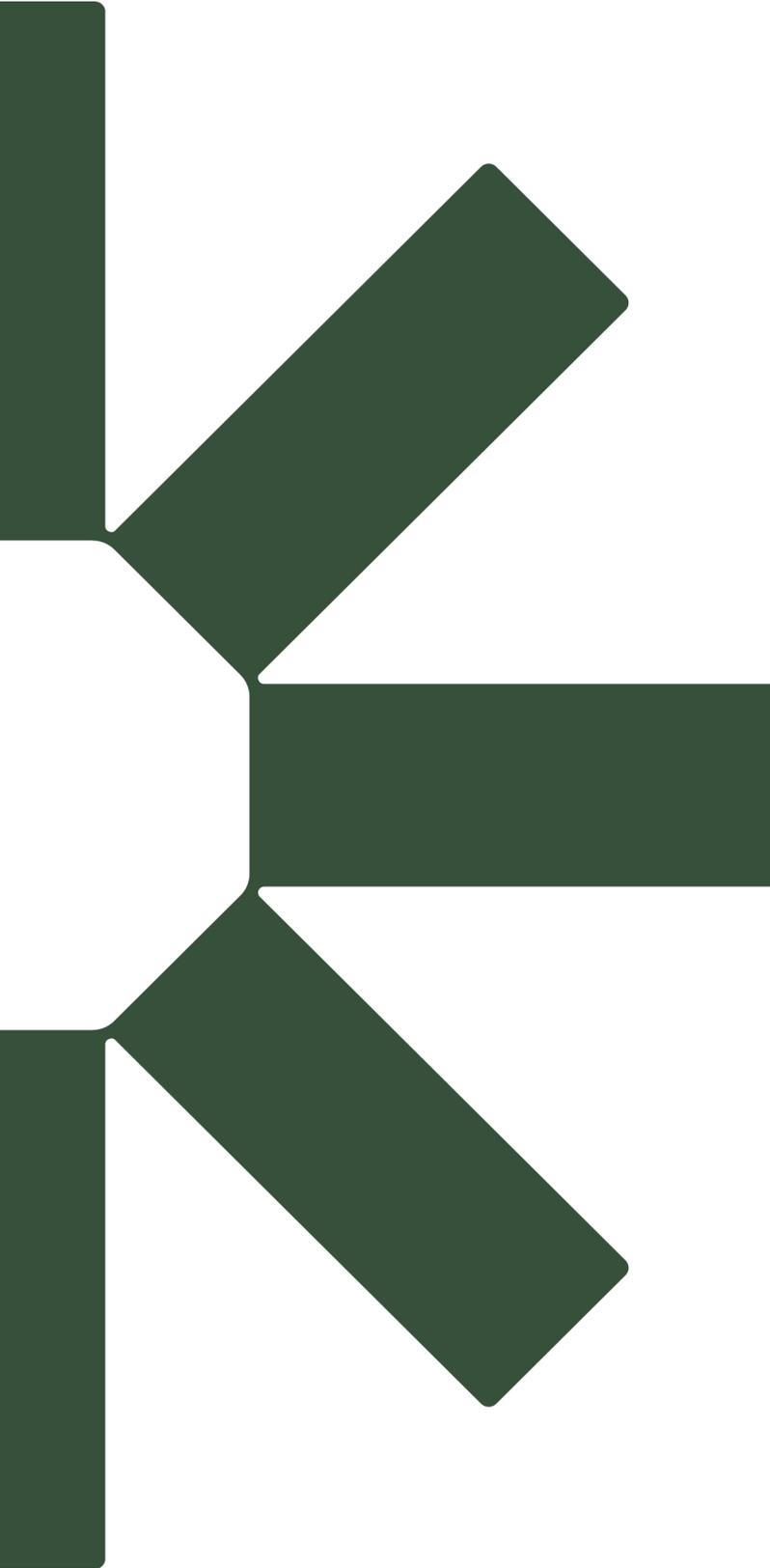
9.2.11 Native Plant Species

Where possible, the use of native plants and seeds from indigenous seed sources should be used on all developments and landscape projects/treatments. This will help to:

- contribute to national commitments on the conservation of biological diversity by establishing native habitats and reducing the planting and dispersion of non-native plants
- support a reduction in the threat posed by the importation of pests and diseases carried on non-native (and non-indigenously sourced) plant material
- compensate for loss of habitat
- maintain regional identity, landscape character and diversity

Development Management Requirement:

- **The Council will promote the use of native plants and seeds from indigenous seed sources in all landscape projects**



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