

# **SEA ENVIRONMENTAL REPORT**

## **APPENDIX II: NON-TECHNICAL SUMMARY**

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**FOR THE**

## **INTEGRATED IMPLEMENTATION PLAN**

### **2019-2024**

**for: National Transport Authority**

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# Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Strategic Environmental Assessment (SEA) Environmental Report for the Integrated Implementation Plan 2019-2024. The purpose of the Environmental Report is to comply with SEA legislation and provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan.

## What is an SEA?

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic, social and other considerations.

## Why is it needed?

The SEA was carried out in order to comply with the provisions of the SEA Regulations, as amended, and in order to contribute towards environmental management and sustainable development. The output of the process is an Environmental Report and an SEA Statement, both of which should be read in conjunction with the Plan.

## How does it work?

Relevant aspects of the current state of the environment were assembled and presented to the team who prepared the Plan. This helped them to devise a Plan that protects whatever is sensitive in the environment. To decide how best to make a Plan that helps to protect the environment as much as possible, the National Transport Authority (NTA) examined different alternatives for the Plan. This helped to highlight where conflicts could occur and facilitated the development of mitigation measures which will help to avoid/reduce adverse environmental effects.

## What is included in the Environmental Report that accompanies the Plan?

The Environmental Report contains the following information:

- A description of the relevant aspects of the current state of the environment;
- A description and assessment of alternatives;
- An assessment of the Plan's provisions; and,
- Mitigation measures which set out to aid compliance with important environmental protection legislation - e.g. the Water Framework Directive, the Habitats Directive - and which will help to avoid/reduce the adverse environmental effects of implementing the Plan.

## What happens at the end of the process?

On finalisation of the Plan, an SEA Statement is prepared and made available. The SEA Statement includes information on how environmental considerations were integrated into the Plan and why the preferred alternative was chosen for the Plan.

## **Section 2    The Plan**

### **2.1 Introduction**

The Minister for Transport, Tourism and Sport approved the Greater Dublin Area Transport Strategy 2016-2035 on 24<sup>th</sup> February 2016.

Under Section 13 of the Dublin Transport Authority Act 2008, the Authority is required, within nine months of that approval date, to make an Integrated Implementation Plan ("Plan") covering the first six year period of the Transport Strategy. However, because the Government decided to undertake a review of capital spending in 2016, and because the legislation does not permit any amendments to an adopted Plan until a new Transport Strategy is approved by the Minister, it was agreed to postpone the development of the Plan until the Government's review concluded.

Earlier this year the Government published its National Development Plan 2018-2027. This publication has enabled the Integrated Implementation Plan to be prepared.

While the initial legislation governing the Plan was more clearly limited to the delivery of the Transport Strategy for the Greater Dublin Area, subsequent amendments have somewhat diluted this position. While the bulk of the Plan relates solely to the Greater Dublin Area, certain areas such as public transport services and activities related to small public service vehicles will be dealt with on a national basis.

### **2.2 Plan Informants for and Content of the Integrated Implementation Plan**

The emergence of increasing road congestion in recent years has underlined the need to provide an enhanced level of public transport provision to provide an alternative to car-based commuting. Congestion is a challenge that must be addressed by the transport system in a context where significant population growth, and associated economic, social, cultural and recreational activity is being planned for.

The significance of the need for action to reduce the use of fossil fuels and diminish the generation of greenhouse gases is recognised and required by legislation.

The National Transport Authority is required to adhere to the National Climate Change Adaptation Framework, which was published by the Minister for Communications, Climate Action and Environment in 2018, and the Department of Transport, Tourism and Sport's Sectoral Adaptation Plan, published in 2017.

The Transport Strategy for the Greater Dublin Area 2016-2035, which established an overall framework for transport investment over the next two decades and was subject to full SEA and Stage 2 AA, is a key policy shaping the six-year Integrated Infrastructure Plan. The priorities in the Integrated Infrastructure Plan align with the objectives and priorities set out in the Transport Strategy, focused on improving public and sustainable transport across the Greater Dublin Area.

Taking all of the above into account, the Authority has focused on improving public and sustainable transport across the Greater Dublin Area while seeking to ensure primacy for transport options that provide for unit reductions in carbon emissions. This can most effectively be done by promoting public transport, walking and cycling, and by actively seeking to reduce car use in circumstances where alternative options are available. In addition, transitioning to lower emission vehicles for transport use is also fundamental to reducing transport related carbon emissions.

To date the Authority has focused significant levels of investment in these sustainable modes, including the reopening of the Phoenix Park Tunnel and the delivery of Luas Cross City. It is intended that this will continue under the Implementation Plan.

The Implementation Plan identifies investment proposals for a number of areas including:

- Bus;
- Light Rail;
- Heavy Rai;
- Integration Measures and Sustainable Transport Investment;
- Integrated Service Plan; and
- Integration and Accessibility.

Most proposals included within the Plan have been already included within plans that have already been subject to SEA including the Transportation Strategy for the Greater Dublin Area 2016-2035, Project Ireland 2040 (including the National Planning Framework 2018) and the Greater Dublin Area Cycle Network Plan 2016.

## **2.3 Relationship with other relevant Plans and Programmes**

The Plan sits within a hierarchy of strategic actions such as plans and programmes, including those listed and detailed in Appendix I of main Environmental Report.

The Plan must comply with relevant higher level strategic actions and may, in turn, guide lower level strategic actions.

The Plan is subject to a number of high level environmental protection policies and objectives with which they must comply, including those which have been identified as Strategic Environmental Objectives (please refer to Section 3.14 of this Non-Technical Summary).

Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - 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 - and the purpose of the Water Framework Directive - 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.

## Section 3 Relevant aspects of the current state of the environment

### 3.1 Introduction

Reflecting the specifications in the SEA Directive, the relevant aspects of the current state of the environment for the following environmental components are identified in this section: biodiversity and flora and fauna, population and human health, soil, water, air and climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Information which is relevant to lower tier planning and project development and associated environmental assessments is identified (note that Article 5 of the SEA Directive, in accordance with the established European principle of subsidiarity, requires that the Environmental Report includes the information that may reasonably be required taking into account, inter alia, the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment).

### 3.2 National Reporting on the Environment

The EPA's *"Ireland's Environment - An Assessment 2016"* provides an integrated assessment of the overall quality of Ireland's environment, the pressures being placed on it and the societal responses to current and emerging environmental issues. This report has informed various parts of the environmental baseline provided below. The key environmental challenges or messages identified by the report relate to the following topics:

- Environment and Health and Wellbeing;
- Climate Change;
- Implementation of Legislation;
- Restore and Protect Water Quality;
- Sustainable Economic Activities;
- Nature and Wild Places; and
- Community Engagement.

### 3.3 Likely Evolution of the Environment in the Absence of a New Plan

The implementation of the Plan is likely to give rise to the following residual adverse environmental effects:

- An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility;
- An extent of travel related greenhouse gas and other emissions to air. This has been mitigated by provisions which have been integrated into the Plan, including those relating to sustainable mobility;
- Loss of an extent of non-protected habitats as a result of new or widened transport infrastructure that involves the replacement of semi-natural land covers with artificial surfaces;
- Losses or damage to ecology (these would be in compliance with relevant legislation);
- Residual wastes (these would be disposed of in line with higher level waste management policies);
- Potential residual losses to built/amenity assets and infrastructure including as a result of new or widened transport infrastructure;
- Flood related risks remain due to uncertainty with regard to extreme weather events;
- Residual visual effects (these would be in compliance with landscape designation provisions);
- Potential alteration to the context and setting of designated cultural heritage however these will occur in compliance with legislation. Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan; and
- Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces and from sea level rise/coastal erosion.

In the absence of a new Plan, none of the adverse effects detailed above would result due to the implementation of the Plan. However, lower-tier Plans would continue to be reviewed and implemented and applications for permission for new projects would continue to be made. Compliance with the mitigation measures outlined under Section 6 of this report would be necessary in order to help ensure that the following significant adverse environmental effects do not occur:

- Emissions to air and associated issues;
- Potential interactions if effects upon environmental vectors such as air are not mitigated;
- Arising from both construction and operation of transport infrastructure and services and associated facilities/ infrastructure: loss of/damage to biodiversity in designated sites, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna;
- Habitat loss, fragmentation and deterioration, including patch size and edge effects;
- Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species and coastal squeeze;
- Effects in riparian zones where new crossings of waters, if any, are progressed;
- Potential effects on vegetation from transport emissions;
- Generation of construction waste;
- Loss or damage to built/amenity assets and infrastructure including as a result of new or widened transport infrastructure;
- Adverse impacts upon the status of water bodies and entries to the WFD Register of Protected Areas, arising from changes in quality, flow and/or morphology;
- Increase in the risk of flooding;
- Occurrence of adverse visual impacts and conflicts with the appropriate protection of statutory designations relating to the landscape;
- Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities, including as a result of increasing traffic flows;
- Adverse impacts on the hydrogeological and ecological function of the soil resource as a result of construction of transport and associated transport facilities/ infrastructure;
- Adverse impacts on features or areas of geological / geomorphological interest as a result of construction of transport and associated transport facilities/ infrastructure; and
- Potential for increase in coastal erosion.

In the absence of the Plan, it would be less certain as to which public transport, cycling and walking projects would be progressed or prioritised. Lower-tier plans and projects would be less coordinated. It would be less certain as to whether the positive effects (that would be facilitated by implementation of the Plan), such as the following, would be achieved:

- A shift from car to more sustainable and non-motorised transport modes;
- Management of traffic flows and associated effects on air quality;
- Reductions in travel related greenhouse gas and other emissions to air and energy usage;
- The development of transport infrastructure and services in locations which will facilitate use by those living and working in urban/suburban areas;
- Reuse and regeneration of brownfield lands thereby contributing towards a higher efficiency of land utilisation, sustainable mobility and a reduction in the need to develop greenfield lands; and
- Enhancement of the public realm (including cultural heritage and its context) in urban areas by facilitating the replacement of motorised modes of transport with more sustainable and non-motorised modes such as walking, cycling and light rail/metro.

## 3.4 Air and Climatic Factors

### Introduction

The Plan facilitates a mode shift away from the private car to public transport, walking and cycling and associated positive effects, including those relating to:

- Contributions towards reductions in greenhouse gas emissions and associated achievement of legally binding targets – directly and as a result of facilitating development within urban and suburban areas;
- Contributions towards reductions in consumption of non-renewable energy sources and achievement of legally binding renewable energy targets;
- Energy security; and
- Contributions towards reductions in emissions to air (including noise) and associated achievement of air quality objectives, thereby contributing towards improvement of air quality and protection of human health.

The key issue involving the assessment of the effects of implementing the Plan on climatic factors relates to greenhouse gas emissions arising from transport. Interactions are also present with flooding (see Section 3.8).

### **Greenhouse Gas Emissions**

The EPA 2018 publication Ireland's Greenhouse Gas Emission Projections 2017-2035 provides an assessment of Ireland's progress towards achieving its emission reduction targets.

Latest EPA greenhouse gas emissions projections indicate an overall increase in greenhouse gas emissions from most sectors. The positive impact on emissions of existing and planned policies and measures is tempered by the strong economic outlook and associated increase in energy demand. Ireland is not projected to meet 2020 emissions reduction targets and is not on the right trajectory to meet longer term EU and national emission reduction commitments.

The contribution by the transport sector to Ireland's greenhouse gas emissions highlights the need for a concerted effort to reduce transport emissions. In the transport sector, emissions are projected to increase from current levels by 14-15% by 2020, peaking at 24-26% in 2025, and falling to by 18-21% by 2030. The projected decline in emissions from 2025 to 2030 is due to the assumption of an acceleration in the number of electric vehicles on Irish roads. After 2030, emissions from transport are projected to start increasing again.

### **Alternative Fuels and Renewable Electricity Generation Targets**

The use of alternative fuels, including electricity, forms a significant part of government policy to reduce transport emissions. The Plan facilitates a mode shift away from the private car to public transport, walking and cycling and provisions relating to electric vehicles. This will contribute towards reductions in the consumption of non-renewable energy sources and achievement of legally binding renewable energy targets.

The Draft Bio Energy Plan commitment to continuation of the Bio Fuels Obligation Scheme is relevant to the Plan and will remain a key means by which Ireland's 2020 10% renewable transport target is likely to be met.

### **Journeys in the Greater Dublin Area**

Operating under a contract with the Authority, Dublin Bus currently operates a network catering for c.136 million passengers in 2017. When combined with Bus Éireann commuter services in the Dublin region, 143 million passengers were carried on State operated bus services in the Dublin area, compared with 38 million on Luas and 33 million passengers on the DART and rail commuter services.

In percentage terms, the bus system accounts for over 67% of public transport passenger journeys in the Greater Dublin Area. That means that whilst the bus carries two thirds of all public transport passengers, Luas carries 18% and DART plus commuter rail services deliver the remaining 15%.

### **Ambient Air Quality**

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

In order to comply with the directives mentioned above, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002).

The EPA's (2018) *Air Quality in Ireland 2017* identifies that:

- No levels above the EU limit value were recorded at any of the ambient air quality network monitoring sites in Ireland in 2017;
- The tighter World Health Organisation (WHO) guideline values were exceeded at a number of monitoring sites for particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), ozone and NO<sub>2</sub>; and

- 2017 dioxin survey shows that concentrations of dioxins and similar pollutants remain at a consistently low level in the Irish environment.

The Plan facilitates improvements in sustainable mobility, thereby facilitating reductions in and limiting increases of emissions to air. Such emissions would occur otherwise with higher levels of motorised transport and associated traffic.

The most recent air quality report for Northern Ireland "Air Pollution in Northern Ireland 2017" (Department of Agriculture, Environment and Rural Affairs, 2019) identifies that EU limit values, target values and corresponding Air Quality Strategy objectives, have been met by the due dates for the following pollutants in Northern Ireland: particulate matter as PM<sub>10</sub> and PM<sub>2.5</sub>, carbon monoxide, benzene, sulphur dioxide and elements lead, arsenic, cadmium and nickel. However, two monitoring sites with sufficient data for a valid annual mean did not meet the limit values and objectives for nitrogen dioxide in 2017; Belfast Stockman's Lane and Downpatrick Roadside. All are traffic-related sites.

### **Noise**

Noise is unwanted sound. The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing EU policy on noise reduction from source.

In compliance with the Directive and transposing Environmental Noise Regulations (S.I. No. 140 of 2006), Noise Action Plans have been prepared for each local authority area within the country. These action plans address the agglomeration of Dublin and major roads, railways and airports. The Action Plans include noise mapping and are required to include measures to manage noise issues and effects, including noise reduction if necessary.

### **Existing problems**

Legislative objectives governing air and climatic factors were not identified as being conflicted with.

However, the Climate Change Advisory Council's Annual Review 2018 has identified that Ireland will miss 2020 and 2030 emissions reduction targets unless urgent action that leads to tangible and substantial reductions in greenhouse gas emissions is taken. The Integrated Implementation Plan will, in combination with various plans and programmes from the transport sector and from other sectors, contribute towards reducing greenhouse gas emissions and moving in the direction of these targets.

With regard to air quality, it is the transport sector which has the greatest impact on NO<sub>2</sub> concentrations, particularly in urban areas where the WHO guideline value, approaching the EU limit value and could face exceedances of this EU limit in the future if vehicle numbers continue to rise. The Transport Plan will help to facilitate reductions in emissions and a transition from dependence on fossil fuel combustion powered transport.

## **3.5 Population and Human Health**

### **Population**

Most users of transport infrastructure and services will reside in and commute to and from urban/suburban areas. Figure 3.1 shows population density per Electoral Division across the Greater Dublin Area. Population for each division has been classified into ten categories with an equal number of units in each category.

A spread of settlement areas occurs throughout the country with a generally higher concentration of settlement areas in the eastern half of the country. The biggest settlements comprise Dublin, Galway, Cork, Limerick and Belfast in Northern Ireland.

The most populous divisions are generally concentrated within and surrounding the M50 motorway, along the coast (as far south as Wicklow), in areas of Meath closest to Dublin and within North-East

Kildare and along the M7 corridor. The uplands in County Wicklow, North-West and South Kildare and North County Meath are among the least populous divisions.

Locating transport infrastructure and services closer to urban/suburban areas (which have higher populations and densities) will allow for a greater number of journeys via sustainable transport modes and associated positive environmental effects on energy usage and air and noise emissions.

### **Human Health**

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors e.g. interactions with human health that could occur in urban locations that experience high levels of traffic congestion and associated particulate matter and noise emissions to air.

Transport issues that present potential interactions with human health include emissions to air including noise and other emissions. These issues are identified under the relevant environmental component and potential interactions have been taken into account by the provisions contained within the Integrated Implementation Plan.

Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a plan or programme began to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population.

### **Existing Problems**

There is historic and predictive evidence of flooding across the country.

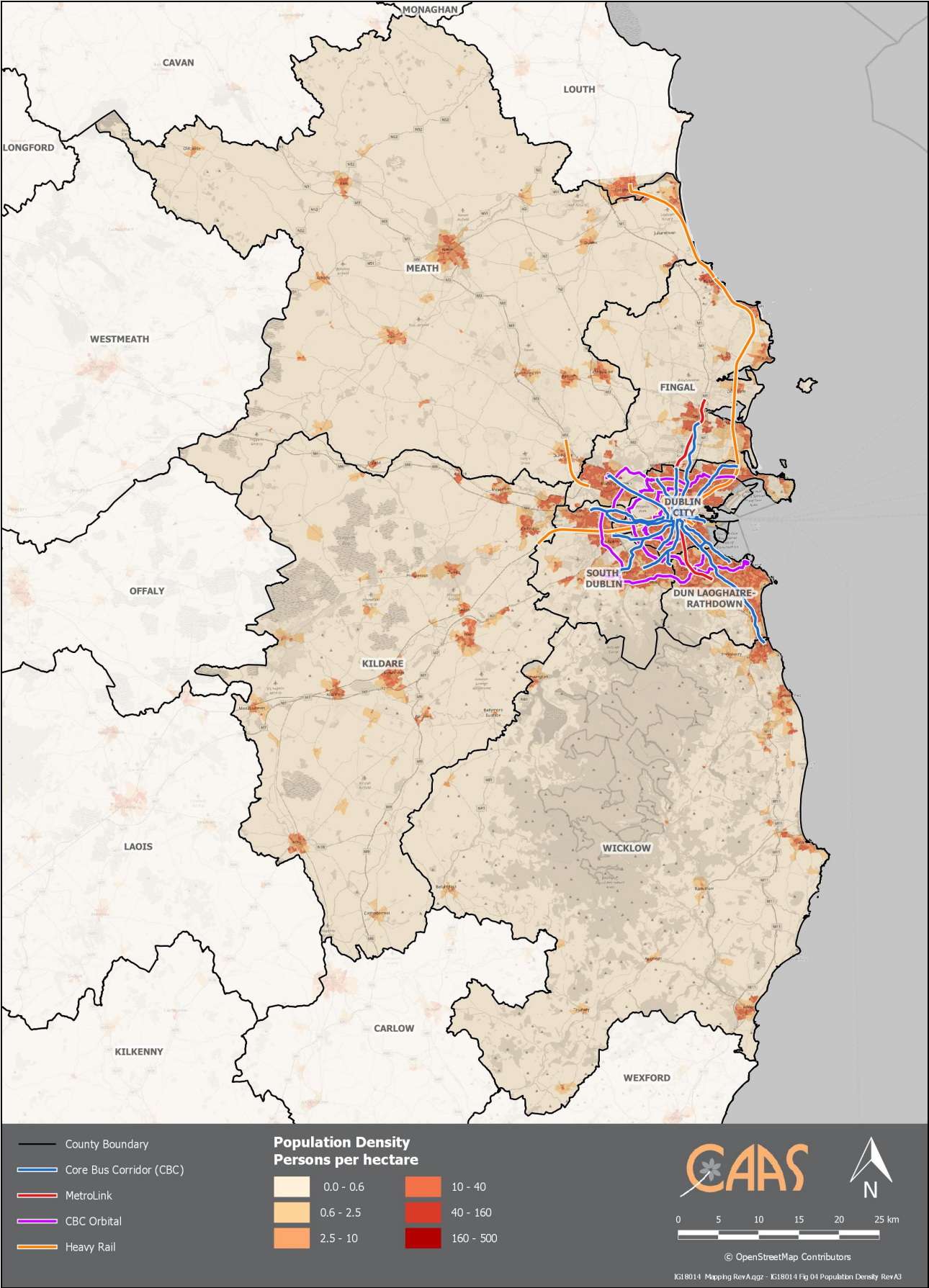


Figure 3.1 Population Density

### 3.6 Biodiversity and Flora and Fauna

Information on biodiversity and flora and fauna which is relevant to the Plan and lower tier assessments and decision making by local authorities and others includes available information on designated ecological sites and protected species, ecological connectivity (including stepping stones and corridors) and non-designated habitats.

Habitats occurring in Ireland include:

- Coastal habitats including sand and machair systems and sea inlets;
- Upland habitats including blanket bogs, heaths and forests;
- Lowland habitats including raised bogs and agricultural lands;
- Surface waters including rivers, lakes and estuaries;
- Limestone pavements, calcareous springs and turloughs, including those concentrated in the Burren (an example of geological heritage); and
- Ancient and semi-natural woodlands of oaks, yew and pine.

Ecological designations include:

- Special Areas of Conservation<sup>1</sup> (SACs), including candidate SACs;
- Special Protection Areas<sup>2</sup> (SPAs);
- UNESCO World Heritage and UNESCO Biosphere sites<sup>3</sup>;
- Ramsar Sites<sup>4</sup>;
- Salmonid Waters<sup>5</sup>;
- Shellfish Waters<sup>6</sup>;
- Freshwater Pearl Mussel catchments<sup>7</sup>;
- Flora Protection Order<sup>8</sup> sites;
- Wildlife Sites (including Nature Reserves<sup>9</sup>);

<sup>1</sup> cSACs have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000. The European Communities (Birds and Natural Habitats) Regulations 2011 consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats)(Control of Recreational Activities) Regulations 2010. The Regulations have been prepared to address several judgments of the Court of Justice of the European Union (CJEU) against Ireland, notably cases C-418/04 and C-183/05, in respect of failure to transpose elements of the Birds Directive and the Habitats Directive into Irish law. European Sites are mapped on Figure 3.2.

<sup>2</sup> SPAs have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) - referred to as the Birds Directive - due to their conservation value for birds of importance in the European Union. European Sites are mapped on Figure 3.2.

<sup>3</sup> United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List comprises sites of outstanding universal value: cultural, natural or mixed. The UNESCO Biosphere Reserves List comprises areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.

<sup>4</sup> Ramsar sites are designated and protected under the Convention of Wetlands of International Importance, especially as Water Fowl Habitat, which was established at Ramsar in 1971 and ratified by Ireland in 1984. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares. The objective of a Ramsar site is the conservation of wetlands for wildfowl. While Ireland ratified the Ramsar Convention in 1984 there is no legal backing for Ramsar sites unless they are also Nature Reserves or SPAs and as such are protected by the Wildlife Acts 1976-2012 or the Birds or Habitats Directives.

<sup>5</sup> Salmonid waters are designated and protected as under the European Communities (Quality of Salmonid Waters) Regulations 1988 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

<sup>6</sup> In order to protect existing shellfish waters and to ensure the future protection of these areas, the European Union introduced the Shellfish Waters Directive (2006/113/EC). The purpose of this Directive is to put in place concrete measures to protect waters, including shellfish waters, against pollution and to safeguard certain shellfish populations from various harmful consequences, resulting from the discharge of pollutant substances into the sea. The Directive applies to the aquatic habitat of bivalve and gastropod molluscs only (includes oysters, mussels, cockles, scallops and clams). It does not include crustaceans such as lobsters, crabs and crayfish.

<sup>7</sup> Freshwater pearl mussel is a globally threatened, long-lived and extremely sensitive species that can be impacted by many forms of pollution, particularly sediment and nutrient pollution and by hydrological and morphological changes, which may arise from developments, activities or changes in any part of the catchment.

<sup>8</sup> The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 1999.

<sup>9</sup> A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. There are currently 78 Statutory Nature Reserves. Most are owned by the State but some are owned by organisations or private landowners.

- Certain entries to the Water Framework Directive Register of Protected Areas<sup>10</sup>;
- Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)<sup>11</sup>;
- Wildfowl Sanctuaries (see S.I. 192 of 1979)<sup>12</sup>;
- National Parks<sup>13</sup>;
- Refuges for Flora and Fauna<sup>14</sup>;
- Biogenic Reserves<sup>15</sup>; and
- Tree Preservation Orders (TPOs)<sup>16</sup>.

Ecological designations in Northern Ireland include:

- European Sites (see description above);
- Areas of Special Scientific Interest (ASSIs)<sup>17</sup>;
- Nature Reserves<sup>18</sup>; and
- Ramsar Sites (see description above).

Protected Species include:

- Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside the above sites, e.g. Otter and bats;
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2012, wherever they occur; and
- 'Protected species and natural habitats' as defined in the European Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including: Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur) and Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur).

The following information is relevant to ecological networks and connectivity and non-designated habitats:

- CORINE land cover mapping (including areas likely to contain a habitat listed in Annex 1 of the Habitats Directive)<sup>19</sup>;
- Watercourses, wetlands and peatlands;
- Other relevant County Development Plan designations;
- The EPA's Framework National Ecological Network for Ireland<sup>20</sup>;

<sup>10</sup> In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by wildlife have been listed on Registers of Protected Areas (RPAs). RPAs include those for Protected Habitats or Species, Shellfish, Salmonid, Nutrient Sensitive Areas, Recreational Waters and Drinking Water.

<sup>11</sup> NHAs are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. pNHAs were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats.

<sup>12</sup> Wildfowl Sanctuaries are areas that have been excluded from the 'Open Season Order' so that game birds can rest and feed undisturbed. There are 68 sanctuaries in the State. Shooting of game birds is not allowed in these sanctuaries.

<sup>13</sup> Designated as per criteria of the International Union for the Conservation of Nature 1969.

<sup>14</sup> As provided for by the Wildlife Acts 1976-2012.

<sup>15</sup> The objective of this designation is conservation of representative examples of natural European heritage, scientific research and exchange of information. The Council of Europe launched the concept of a European Network of Biogenetic Reserves in 1973, the programme was started in 1976.

<sup>16</sup> TPOs are a planning mechanism whereby individual trees or groups of trees can be identified as important and protected by a TPO.

<sup>17</sup> ASSIs are protected areas that represent the best of Northern Ireland's wildlife and geological sites that make a considerable contribution to the conservation of Northern Ireland's most valuable natural places.

<sup>18</sup> Nature reserves are chosen from among the very best examples of Northern Ireland's wildlife, habitats and geology. They contain a wide range of species, communities and geology and their designation is a public recognition of their importance.

<sup>19</sup> The CORINE land cover mapping classifies land cover under various headings. This dataset allows for the identification of lands that are likely to be most valuable to biodiversity including those which are likely to contain a habitat listed in Annex 1 of the Habitats Directive e.g. natural grasslands, peat bogs, salt marshes. CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface.

<sup>20</sup> The EPA's Framework National Ecological Network provides a classification of the relative importance of areas by virtue of the biodiversity and flora that they contain and the connectivity they provide. Many of the areas identified are corridors.

- Areas that are recognised as locally important for biodiversity or nature (e.g. in County Biodiversity and/or Development Plans, semi-natural habitats including wetlands and woodlands); and
- Other sites of high biodiversity value or ecological importance as identified by, for example, the Department of Agriculture, Food and the Marine (badger sets), relevant datasets from the National Biodiversity Data Centre and BirdWatch Ireland's 'Important Bird Areas' (Crowe et al., 2009).

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and urban areas. Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the Natura 2000 network of designated ecological sites are maintained.

Ecological islands or areas of habitat that are not connected to surrounding ecologically valuable habitats can also be important.

In general, and on a national level, ecological sensitivities occur in greatest concentrations in the western half of the country and in particular along the western seaboard (including north-western and south-western coasts). Designated inland areas are generally concentrated around water bodies, bogs and upland areas. Other areas of significant extent designated include estuaries, islands and mountain areas, including those at the Wicklow Mountains to the south of Dublin.

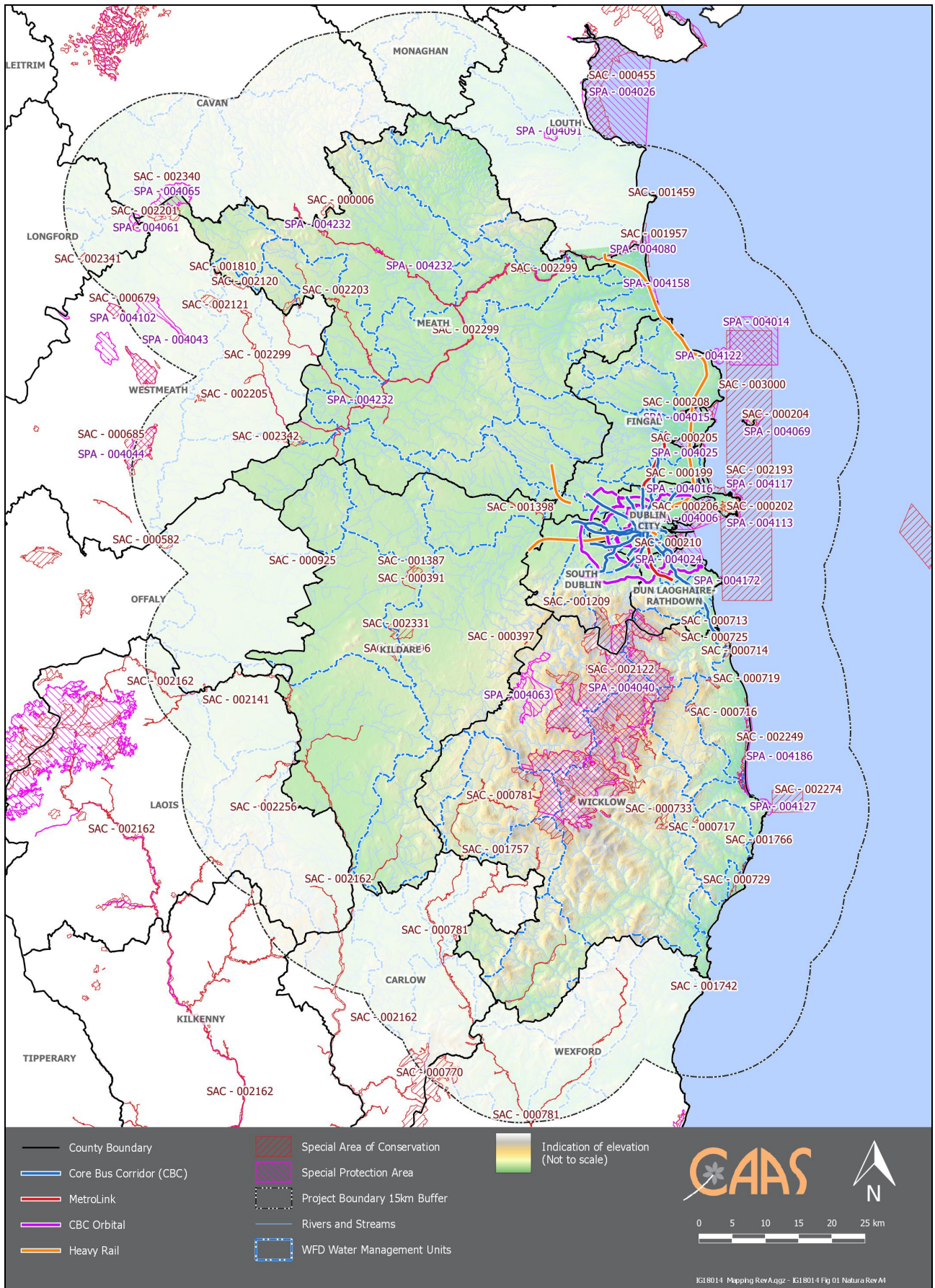
Within the Greater Dublin Area, areas containing the greatest extent of sensitive ecological features include coastal habitats (including intertidal flats, islands, sand and dunes) and those in the uplands of County Wicklow (including peat bogs and forests). In addition to coastal waters there are a number of rivers and lakes draining the area which provide habitats for sensitive species. Dublin has the least concentration of sensitive habitats, although Dublin Bay is heavily designated. Wicklow's sensitivities include peat bogs and forest areas, including those found in the uplands, and coastal areas. Kildare's sensitivities include peat bogs in the North-West of the County. Dispersed areas of marginal agricultural lands that may include ecological sensitivities generally occur in Counties Meath, Kildare and Wicklow.

### **Potential Habitat Sensitivity**

Potential Habitat Sensitivity is mapped on Figure 3.3 and includes Natural Heritage Areas (NHAs), Proposed Natural Heritage Areas (pNHAs) and Areas likely to contain Annex I Habitats. Areas likely to contain Annex I Habitats comprise areas such as: broad-leaved forest, peat bog, natural grassland, water bodies, coastal lagoons, mixed forests, moors and heaths, intertidal flats, beaches dunes sand, inland marshes, stream courses, estuaries, sparsely vegetated areas, burnt areas, salt marshes, bare rocks, transitional woodland scrub and land principally occupied by agriculture with areas of natural vegetation. Where they occur, NHA and pNHA designations often overlap with European Sites boundaries. On national level greater concentrations of these sites occur in the western half of Ireland (including counties of Kerry, Clare, Galway, Mayo, Sligo and Donegal) and elsewhere in the country around lakes, bog areas, the Grand and Royal Canals, Shannon Estuary, Wicklow uplands, and coastal areas including islands and marine waters. Within the Greater Dublin Area they include lakes, bog areas, the Grand and Royal Canals and coastal areas including islands and waters.

### **Existing Problems**

Previous changes in land uses arising from human development have resulted in a loss of biodiversity and flora and fauna however legislative objectives governing biodiversity and fauna were not identified as being conflicted with. The Plan includes robust measures to contribute towards the protection of biodiversity and flora and fauna.



**Figure 3.2 European Sites**