

APPROPRIATE ASSESSMENT SCREENING REPORT

FOR

CLIMATE CHANGE ADAPTATION
STRATEGY FOR LOUTH COUNTY
COUNCIL

August 2019

ON BEHALF OF

CLIMATE ACTION REGIONAL
OFFICE (CARO)

Prepared by

Enviroguide Consulting

 *Dublin*


3D Core C, Block 71, The Plaza,
Park West, Dublin 12

 *Kerry*

19 Henry Street
Kenmare, Co. Kerry

 www.enviroguide.ie

 info@enviroguide.ie

 +353 1 565 4730



DOCUMENT CONTROL SHEET

Client	Climate Action Regional Office
Project Title	Climate Change Adaptation Strategy for Louth County Council
Document Title	Appropriate Assessment Screening Report

Revision	Status	Author(s)	Reviewed	Approved	Issue Date
1.0	Internal Draft	Donnacha Woods, <i>Project Ecologist</i>	Jim Dowdall, <i>Director</i>	Jim Dowdall, <i>Director</i>	21/05/2019
2.0	Draft for Consultation	Mairead Foran <i>Environmental Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	23/05/2019
3.0	Final	Mairead Foran <i>Environmental Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	Muriel Ennis <i>Principal Consultant</i>	29/08/2019

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1 INTRODUCTION

1.1 Background

Member States are required to designate Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) under the EU Habitats and Birds Directives, respectively. SACs and SPAs are collectively known as Natura 2000 sites. An 'Appropriate Assessment' (AA) is a required assessment to determine the likelihood of significant impacts, based on best scientific knowledge, of any plans or projects on Natura 2000 sites. A screening for AA determines whether a plan or project, either alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site, in view of its conservation objectives.

This AA Screening has been undertaken to determine the potential for significant impacts on nearby Sites with European conservation designations (i.e. Natura 2000 Sites). The purpose of this assessment is to determine, the appropriateness, or otherwise, of the proposed development in the context of the conservation objectives of such sites.

1.2 Legislative Context

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of SACs and the Birds Directive (79/409/EEC) seeks to protect birds of special importance by the designation of SPAs. It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

An Appropriate Assessment is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a Natura 2000 Site, and paragraphs 3 and 4 states that:

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

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

The current assessment was conducted within this legislative framework and the published DEHLG (2009) guidelines. As outlined in these, it is the responsibility of the proponent of the project to provide a comprehensive and objective Screening for Appropriate Assessment, which can then be used by the competent authority in order to conduct the Appropriate Assessment (DEHLG, 2009).

1.3 Stages of AA

This Appropriate Assessment Screening Report (the “**Screening Report**”) has been prepared by Enviroguide Consulting which considers whether the proposed Climate Change Adaptation Strategy is likely to have a significant effect on a European Site and whether a Stage 2 Appropriate Assessment is required.

The AA process is a four-stage process, with issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

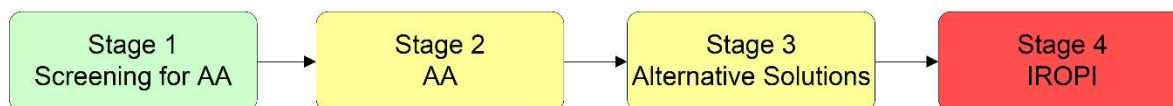


FIGURE 1. THE FOUR STAGES OF THE APPROPRIATE ASSESSMENT PROCESS (DEHLG, 2010).

The four stages of an AA can be summarised as follows:

- Stage 1: *Screening*. The first stage of the AA process is to determine the likelihood of significant impacts of a proposal.
- Stage 2: *Natura Impact Statement (NIS)*. The second stage of the AA process assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the Natura 2000 site, with respect to the conservation objectives of the site and its ecological structure and function. A Natura Impact Statement containing a professional, scientific examination of the proposal is required and should include any mitigation measure to avoid, reduce or offset negative impacts.
- Stage 3: *Assessment of alternative solutions*. If the outcome of Stage 2 is negative i.e. adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. This stage examines alternative solutions to the proposal.
- Stage 4: *Assessment where no alternative solutions exist and where adverse impacts remain*. The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a Natura 2000 site, where no less damaging solution exists.

The purpose of Stage 1, the Screening Stage is to determine the necessity or otherwise for a NIS. Screening for AA examines the likely effects of a project or plan alone, and in combination with other projects or plans, upon a Natura 2000 site, and considers whether it can be objectively concluded that these effects will not be significant.

If it is determined during screening stage that the proposal may have a significant effect on a Natura 2000 site, or such a significant effect cannot be ruled out, then a NIS will need to be prepared. The Screening is outlined in Section 2.

1.4 Screening Steps

This Screening for AA, or Stage 1 of AA, has been undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the 'Habitats' Directive 92/43/EEC (EC, 2001) and the European Commission Guidance 'Managing Natura 2000 sites' (EC, 2000). Screening for AA involves the following:

- Establish whether the Plan is necessary for the management of a Natura 2000 site;
- Description of the Plan;
- Identification of Natura 2000 sites potentially affected;
- Identification and description of individual and cumulative impacts likely to result from the plan;
- Assessment of the significance of the impacts identified above on site-integrity; and
- Exclusion of sites where it can be objectively concluded that there will be no significant effects.

This Stage 1, Screening, examines whether likely effects upon a Natura 2000 site will be significant and determines whether the AA process for the proposed Plan alone and in combination with other developments in the area requires a Stage 2.

1.5 Stage 1 Screening Assessment Methodologies

1.5.1 Desk Study

A desk study was carried out to evaluate all available information on the areas natural environment. This comprised a review of a wide range of available publications, datasets and resources where applicable, including the following sources:

- Climate Change Adaptation Strategy – Louth County Council;
- National Parks and Wildlife Service (NPWS) datasets;
- Geological Survey Ireland (GSI) online datasets and mapping;
- Environmental Protection Agency (EPA) mapping and datasets;
- National Biodiversity Data Centre (NBDC) online mapping and species records;
- OSI aerial imagery and Discovery Series mapping;
- Satellite imagery from various sources and dates (Google, Digital Globe, Bing);
- The Status of EU Protected Habitats in Ireland (NPWS);

For a complete list of the specific documents consulted as part of this assessment, see *Section 4 References*.

2 STAGE 1 SCREENING

2.1 Management of Natura 2000 Site

Louth County Council's Climate Change Adaptation is not directly connected with or necessary for the management of Natura 2000 sites in County Louth or elsewhere.

2.2 Description of the Plan

2.2.1 Background

The Earth's Climate is changing. While natural fluctuations in climate are considered normal, emerging research and observational records from across the world show rates of change that are far greater than those experienced in recent history. Global temperatures have risen and are projected to rise further bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. Ireland's climate is changing in line with global patterns, and these changes are bringing significant and wide-ranging economic, environmental and social impacts.

Climate change is now recognised as a global challenge with policy responses required in terms of both mitigating the causes of climate change and in adapting to the now inevitable consequences of our changing climate. Action at local level is vitally important to help reduce the risks and impacts of climate change across communities.

This local authority Climate Change Adaptation Strategy forms part of Ireland's national strategy for climate adaptation as set out in the National Adaptation Framework (NAF) which was produced under the provisions of the Climate Action and Low Carbon Development Act 2015.¹

It is tasked with mainstreaming climate change adaptation over time into all functions, operations and services of the local authority. It seeks to inform or 'climate proof' existing plans and policies produced and implemented by the local authority. This ensures a considered, consistent and coherent approach, facing head-on the challenges of a changing climate. Crucially, it also helps in building resilience within the local authority organisation itself as well as across all communities.

2.2.2 Climate Change Adaptation Strategy Objectives

The purpose of the Louth County Council's Climate Change Adaptation Strategy is to achieve the national objective of becoming a more climate resilient society and economy by 2050. In order to help tackle current and future challenges that climate change can present, Louth County Council has set out a number of key objectives in their strategy, under six thematic principles. The six themes are listed below:

1. Local Adaptation Governance and Business Operations
2. Infrastructure and Built Environment
3. Land-use and Development
4. Drainage and Flood Management
5. Natural Resources and Cultural Infrastructure

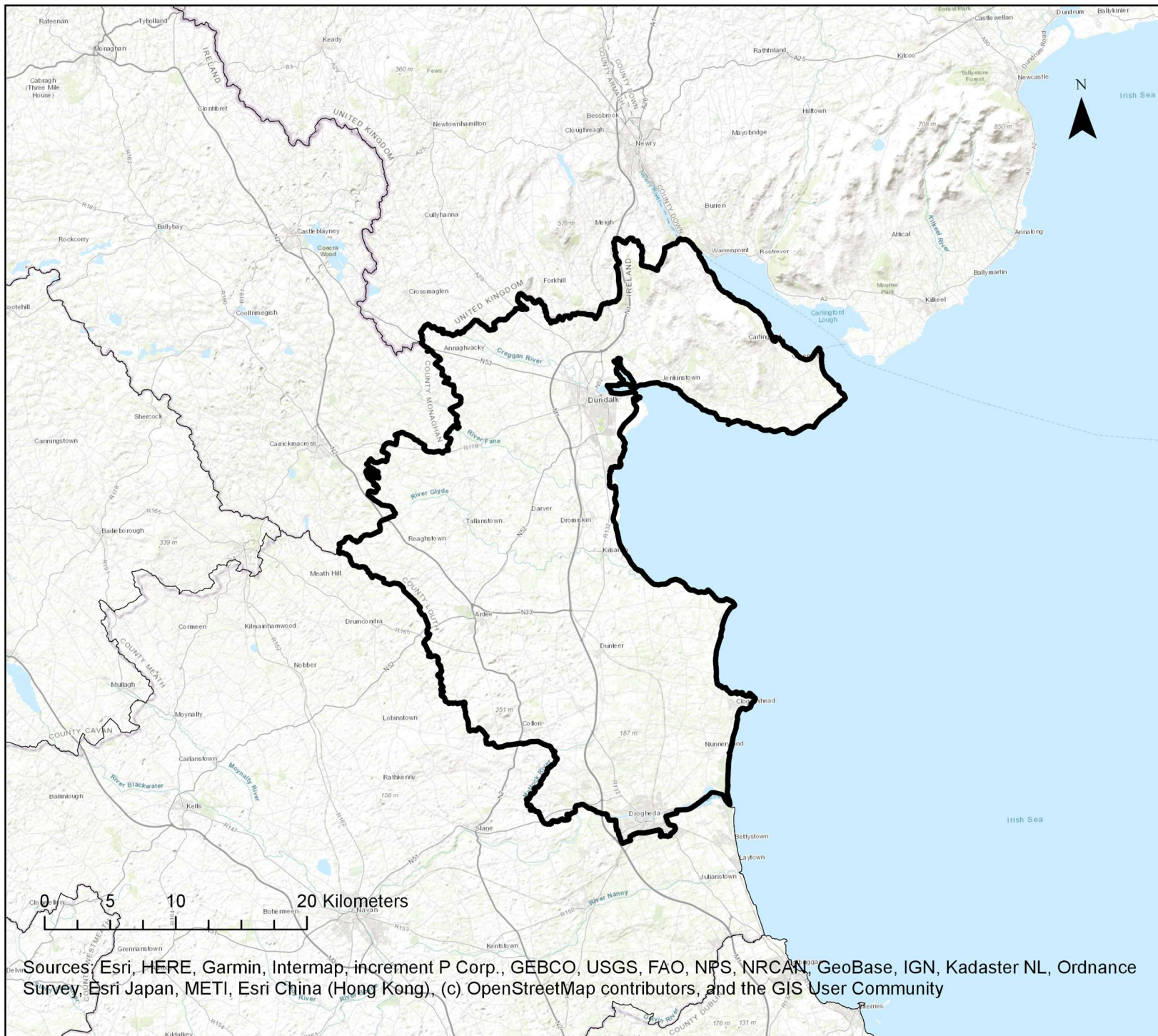
¹ *Climate Action and Low Carbon Development Act 2015* (S.I. No. 25/2016).

6. Community Health and Wellbeing

Table 1 below outlines Louth County Council's Climate Change Adaptation Strategy objectives per theme.

TABLE 1. LOUTH COUNTY COUNCIL CLIMATE CHANGE ADAPTATION STRATEGY OBJECTIVES

Theme 1: Local Adaptation Governance and Business Operations	
1	To ensure that climate adaptation is mainstreamed into all activities and operations of the Local Authority.
2	To implement an appropriate response in addressing diversity of climate change impacts
Theme 2: Infrastructure and Built Environment	
1	To ensure and increase the resilience of infrastructural assets and inform investment decisions
2	To work towards the objective for a low carbon society
Theme 3: Land-use and Development	
1	To Integrate climate action considerations into land-use planning policy and influence positive behaviour
Theme 4: Drainage and Flood Management	
1	To manage the risk of flooding through a variety of responses
Theme 5: Natural Resources and Cultural Infrastructure	
1	To provide for enhancement of natural environment to work positively towards climate action.
2	To promote effective bio-diversity management and enhance protection of natural habitats and landscapes
3	To protect Heritage and Cultural Infrastructure
Theme 6: Community Health and Wellbeing	
1	To build capacity and resilience within communities
2	To promote health and well-being within communities



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Legend	
County Louth	
Project	
Appropriate Assessment Screening Report for Climate Change Adaptation Strategy for Louth Co Co	
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Figure 2: Area encompassed by Strategy	
<small> 30 Core C, Block 71, The Plaza Park West, Dublin 12 D12F9TH www.enviroguide.ie info@enviroguide.ie +353 (0)1 565 4730 </small>	
Drawn by: ME	Projection:
Checked : JD	IRENET95 Irish Transverse Mercator
Date: 23/05/2019	Scale: 1:393,750 @A4
Notes:	
Site boundaries shown are for illustration purposes only and do not represent legal or exact boundaries.	

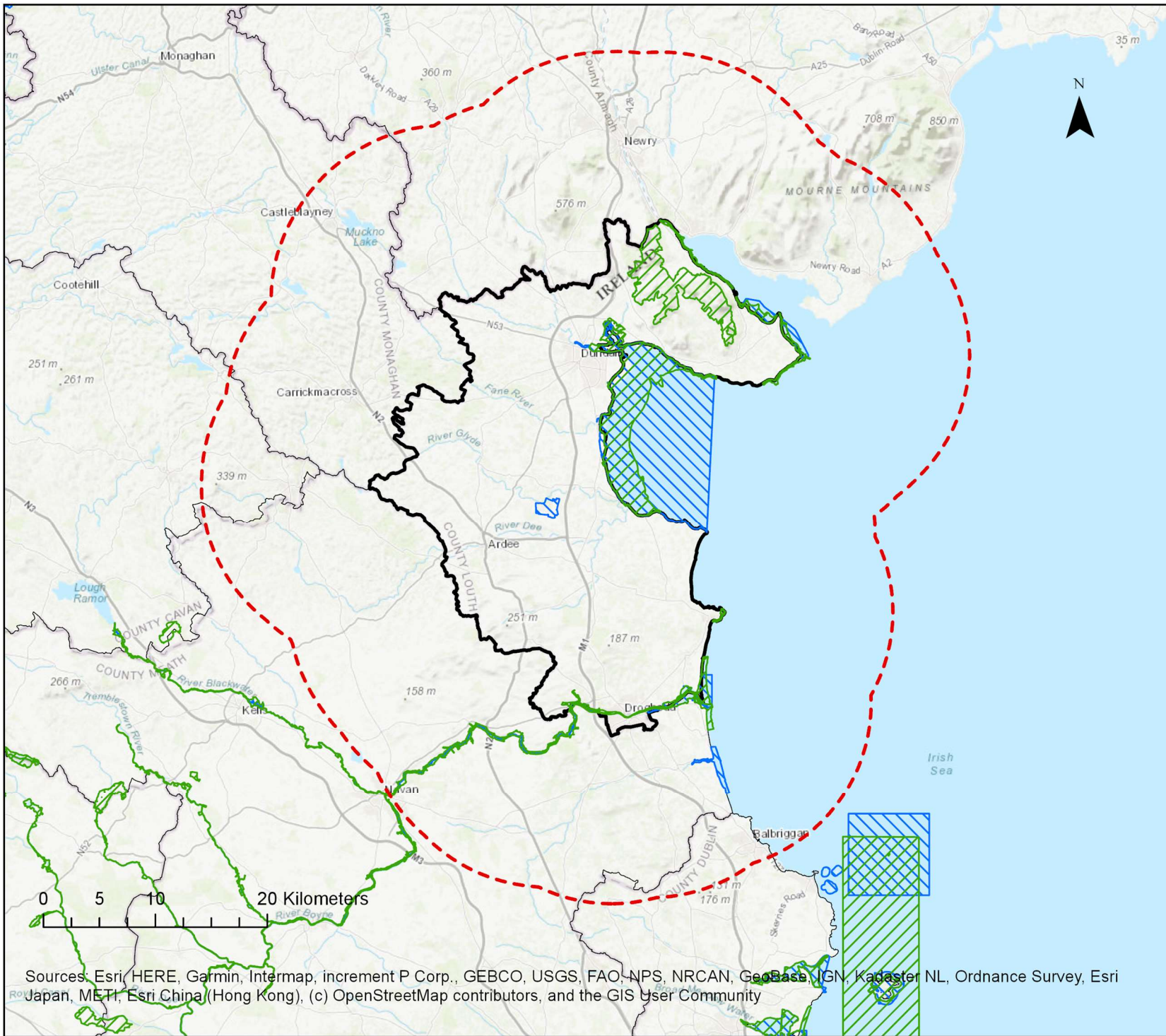
2.2.3 Identification of Relevant Natura 2000 Sites

In identifying potentially affected Natura 2000 sites, it has been decided to adopt the precautionary principle and includes all SPAs and SACs within the Strategy area, including a surrounding 15km buffer zone. Within this overall area, a total of 5 SACs and 5 SPAs are found, each site name, corresponding code and qualifying interests are detailed in Table 2 below.

TABLE 2. NATURA 2000 SITES WITHIN A 15KM RADIUS OF THE STRATEGY AREA.
* = PRIORITY; NUMBERS IN BRACKETS ARE NATURA 2000 CODES

Site Code	Site Name	Qualifying Interests	Location
Special Areas of Conservation (SAC)			
001957	Boyne Coast And Estuary SAC	<ul style="list-style-type: none"> - [1130] Estuaries - [1140] Tidal Mudflats and Sandflats - [1210] Annual vegetation of drift lines - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [2110] Embryonic Shifting Dunes - [2120] Marram Dunes (White Dunes) - [2130] Fixed Dunes (Grey Dunes)* 	Within Co. Louth
001459	Clogher Head SAC	<ul style="list-style-type: none"> - [[1230] Vegetated Sea Cliffs - [4030] Dry Heath 	Within Co. Louth
000455	Dundalk Bay SAC	<ul style="list-style-type: none"> - [1130] Estuaries - [1140] Tidal Mudflats and Sandflats - [1220] Perennial Vegetation of Stony Banks - [1310] Salicornia Mud - [1330] Atlantic Salt Meadows - [1410] Mediterranean Salt Meadows 	Within Co. Louth
002306	Carlingford Shore SAC	<ul style="list-style-type: none"> - [1210] Annual Vegetation of Drift Lines - [1220] Perennial Vegetation of Stony Banks 	Within Co. Louth
000453	Carlingford Mountain SAC	<ul style="list-style-type: none"> - [4010] Wet Heath - [4030] Dry Heath - [4060] Alpine and Subalpine Heaths - [6230] Species-rich Nardus Grassland* - [7140] Transition Mires - [7230] Alkaline Fens - [8110] Siliceous Scree - [8210] Calcareous Rocky Slopes - [8220] Siliceous Rocky Slopes 	Within Co. Louth
Special Protection Areas (SPA)			
004080	Boyne Estuary SPA	<ul style="list-style-type: none"> - [A048] Shelduck (<i>Tadorna tadorna</i>) - [A130] Oystercatcher (<i>Haematopus ostralegus</i>) - [A140] Golden Plover (<i>Pluvialis apricaria</i>) - [A141] Grey Plover (<i>Pluvialis squatarola</i>) - [A142] Lapwing (<i>Vanellus vanellus</i>) - [A143] Knot (<i>Calidris canutus</i>) 	Within Co. Louth

		<ul style="list-style-type: none"> - [A144] Sanderling (<i>Calidris alba</i>) - [A156] Black-tailed Godwit (<i>Limosa limosa</i>) - [A162] Redshank (<i>Tringa tetanus</i>) - [A169] Turnstone (<i>Arenaria interpres</i>) - [A195] Little Tern (<i>Sterna albifrons</i>) - [A999] Wetlands and Waterbirds 	
004091	Stabannan-Braganstown SPA	<ul style="list-style-type: none"> - [A043] Greylag Goose (<i>Anser anser</i>) 	Within Co. Louth
004026	Dundalk Bay SPA	<ul style="list-style-type: none"> - [A005] Great Crested Grebe (<i>Podiceps cristatus</i>) - [A043] Greylag Goose (<i>Anser anser</i>) - [A046] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) - [A048] Shelduck (<i>Tadorna tadorna</i>) - [A052] Teal (<i>Anas crecca</i>) - [A053] Mallard (<i>Anas platyrhynchos</i>) - [A054] Pintail (<i>Anas acuta</i>) - [A065] Common Scoter (<i>Melanitta nigra</i>) - [A069] Red-breasted Merganser (<i>Mergus serrator</i>) - [A130] Oystercatcher (<i>Haematopus ostralegus</i>) - [A137] Ringed Plover (<i>Charadrius hiaticula</i>) - [A140] Golden Plover (<i>Pluvialis apricaria</i>) - [A141] Grey Plover (<i>Pluvialis squatarola</i>) - [A142] Lapwing (<i>Vanellus vanellus</i>) - [A143] Knot (<i>Calidris canutus</i>) - [A149] Dunlin (<i>Calidris alpina</i>) - [A156] Black-tailed Godwit (<i>Limosa limosa</i>) - [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) - [A160] Curlew (<i>Numenius arquata</i>) - [A162] Redshank (<i>Tringa tetanus</i>) - [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) - [A182] Common Gull (<i>Larus canus</i>) - [A184] Herring Gull (<i>Larus argentatus</i>) - [A999] Wetlands & Waterbirds 	Within Co. Louth
004078	Carlingford Lough SPA	<ul style="list-style-type: none"> - [A046] Brent Goose (<i>Branta bernicla hrota</i>) - [A999] Wetlands 	Within Co. Louth
004158	River Nanny Estuary and Shore SPA	<ul style="list-style-type: none"> - [A130] Oystercatcher (<i>Haematopus ostralegus</i>) - [A137] Ringed Plover (<i>Charadrius hiaticula</i>) - [A140] Golden Plover (<i>Pluvialis apricaria</i>) - [A143] Knot (<i>Calidris canutus</i>) - [A144] Sanderling (<i>Calidris alba</i>) - [A184] Herring Gull (<i>Larus argentatus</i>) - [A999] Wetlands 	Within the 15km buffer



Legend

-  Special Protection Areas
-  Special Area of Conservation
-  County Louth
-  County Louth 15km Buffer



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Title

Figure 3: Natura 2000 sites within 15km of Strategy area

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 info@enviroguide.ie
 t +353 (0)1 565 4730

Drawn by: ME	Projection: IRENET95 Irish Transverse Mercator
Checked: JD	
Date: 23/05/2019	Scale: 1:460,800 @A4

Notes:

Site boundaries shown are for illustration purposes only and do not represent legal or exact boundaries.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

2.3 Assessment of Significance of Potential Impacts

The potential for significant impacts resulting from the Louth County Council Climate Change Adaptation Strategy has been assessed in relation to Natura 2000 sites within the precautionary zone of potential impact.

Impacts that require consideration are categorised under the following headings, as outlined in *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission, 2001).

- Habitat loss or alteration;
- Habitat / species fragmentation;
- Disturbance and / or displacement of species;
- Changes in population density; and
- Changes in water quality and resource.

Following assessment, it is considered that the Climate Change Adaptation Strategy will not result in any significant effects on any Natura 2000 sites.

Louth County Council Climate Change Adaptation Strategy is designed to inform responses throughout the local authority to the effects of climate change and does not identify specific areas for development. Any future projects resulting from the objectives laid out in the Strategy will need to comply with the relative legislation in relation to Appropriate Assessment, where appropriate.

2.3.1 In-combination Effects

The following planning and policy documents were reviewed and considered for possible in-combination effects with the proposed Plan:

- Louth County Development Plan 2015 - 2021; and
- Louth's Heritage Plan 2007-2011.

3 CONCLUSION

In conclusion, further to a screening of Louth County Council's Climate Change Adaptation Strategy for possible significant effects on Natura 2000 sites no significant effects were identified.

The screening outlined in this report included an assessment of possible in-combination effects. Based on the objective information contained in this report and applying the precautionary principle, it is concluded that the Climate Change Adaptation Strategy will not have a significant effect on Natura 2000 sites.

Other Local Authority documents such as Louth's Development Plan will take their lead from the Climate Change Adaptation Strategy. These, as part of the plan preparation process will be subject to SEA and AA that ensures that objectives and actions that result will be adequately examined for ecological effects.

Furthermore, should specific actions from Louth's strategy or plan arise, they will be subjected to both AA and EIA process when sufficient design details exist. The AA and EIA process will ensure that any possible environmental and ecological effects of any outcomes from resulting actions will be adequately assessed.

3.1 Reason for Conclusion

The reasons for the above conclusion are summarised as follows:

Due to the nature of Louth's County Council Climate Change Adaptation Strategy, and in particular its main objective of mainstreaming Climate Adaptation into all functions within Louth County Council, there is no possible effects identified to any Natura 2000 sites as a result of the Climate Change Adaptation Strategy.

4 REFERENCES

- DEHLG. (2010). Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities. Department of Environment, Heritage and Local Government.
- DHPLG. (2018). River Basin Management Plan for Ireland 2018-2021. Department of Housing, Planning and Local Government.
- Environmental Protection Agency. (2002). Guidelines on information to be contained in Environmental Impact Statements. Environmental Protection Agency, Ireland.
- Environmental Protection Agency. (2017). Guidelines on information to be contained in Environmental Impact Assessment Reports (Draft). Environmental Protection Agency, Ireland.
- European Commission. (2001). Assessment of plans and projects significantly affecting Natura 2000 sites - Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Communities, Luxembourg.
- Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Kilkenny: The Heritage Council.
- Franklin, A. N. (2002). What is Habitat Fragmentation? *Studies in Avian Biology*, 20-29.
- Kuikena, T., Bennetta, P., Allchinb, R., Kirkwood, J., Baker, J., Lockyer, C., Walton, M., Sheldrick, M. (1994). PCBs, cause of death and body condition in harbour porpoises (*Phocoena phocoena*) from British waters. *Aquatic Toxicology*, Vol: 28, Issue: 1, Page: 13-28.
- NBDC (2018). National Biodiversity Data Centre online mapping [ONLINE] Available at: <http://maps.biodiversityireland.ie/Map.aspx>. [Accessed April 2019].
- NPWS (2010). Circular NPW 1/10 & PSSP 2/10. Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government.
- NPWS (2018). Generic Conservation Objectives. Version 6.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- Parnell, J; Curtis, T; and Cullen, E. (2012). *Webb's an Irish Flora*. Hardback, 8th Ed. (March 2012), Trinity College Dublin.
- Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Smith, G.F., O'Donoghue, P, O'Hora K., and Delaney, E. (2010). Best Practice Guidance for Habitat Survey and Mapping. Published by the Heritage Council.