

NATURA IMPACT REPORT

IN SUPPORT OF THE
APPROPRIATE ASSESSMENT
OF
VARIATION No. 2 (A)
TO THE
GALWAY COUNTY DEVELOPMENT PLAN
2015-2021

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

for: Galway County Council

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Section 1 Introduction

1.1 Background

CAAS has been appointed by Galway County Council to prepare this Natura Impact Report (NIR) in support of the Appropriate Assessment (AA) of Variation No. 2 (a) to the Galway County Development Plan 2015-2021 in accordance with the requirements of Article 6(3) of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive").

The overall aim of the Habitats Directive is to maintain or restore the "favourable conservation status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Council Directive 2009/147/EC on the conservation of wild birds) with Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated to afford protection to the most vulnerable of them. These two designations are collectively known as European Sites.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the European Sites at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations (in particular Part XAB of the Planning and Development (Amendment) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) to ensure the ecological integrity of these sites. AA is an assessment of whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a European Site in view of the Site's conservation objectives.

The Galway County Development Plan (CDP) 2015-2021 has already been subject to an Appropriate Assessment and Strategic Environmental Assessment. The mitigation measures proposed within the documents were deemed sufficient to ensure the implementation of the Plan would not result in significant effects on European Sites. Variation No. 2 (a) has been considered alone and in-combination with Galway CDP, due to the existing CDP assessments.

This report is part of the ongoing AA process that is being undertaken alongside the preparation of the Variation No. 2 (a). It will be taken into account, alongside other documentation prepared as part of this process when the planning authority finalises the AA at adoption of the Plan.

1.2 Legislative Context

AA is an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site. These sites consist of SACs and SPAs and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

The Habitats Directive provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. In Ireland, these are SACs and SPAs, designated under the Birds Directive, hereafter referred to as European Sites.

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

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

In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

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

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

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in judgements of the Court of Justice of the European Union (CJEU).

If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project may nevertheless be carried out for "Imperative Reasons of Overriding Public Interest" (IROPI), 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.

1.3 Guidance

This NIR has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2010;*
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2002;*
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC: European Commission, 2000;*
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC, 2001);*
- *Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission, Office for Official Publications of the European Communities, Luxembourg (EC, 2007); and*
- *Flora (Protection) Order, 1999 (as amended).*

The AA is based on best scientific knowledge and has utilised ecological and hydrological expertise. In addition, a detailed online review of published scientific literature and 'grey' literature was conducted. This included a detailed review of the National Parks and Wildlife Website including mapping and available reports for relevant sites and in particular sensitive qualifying interests/special conservation interests described and their conservation objectives. The EPA Envision Map-viewer (www.epa.ie) and available reports were also reviewed.

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC' (EC, 2000).

- The conservation status of a natural habitat is defined as the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species;
- The conservation status of a species is defined as the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population;
- The integrity of a European Site is defined as the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified; and
- Significant effect should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives.

1.4 Approach

There are four main stages in the AA process; the requirements for each depending on likely impacts to European Sites (SACs and SPAs).

Stage One: Screening

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

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European Site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no significant adverse impacts on European Sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage 3.

Stage Three: Assessment of Alternative Solutions

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

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

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

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European Sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts

on the site(s) remain. If the plan is still likely to result in impacts on European Sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.4.1 Source-Pathway-Receptor Model

Ecological impact assessment of potential effects on European Sites is conducted following a standard source-pathway-receptor model, where, in order for an effect to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) – e.g. pollutant run-off from proposed works;
- Pathway(s) – e.g. groundwater connecting to nearby qualifying wetland habitats and
- Receptor(s) – qualifying aquatic habitats and species of European Sites.

In the interest of this report, receptors are the ecological features which are known to be utilised by the qualifying interests or special conservation interests of a European Site. A source is any identifiable element of the Variation provision which is known to have interactions with ecological processes. The pathways are any connections or links between the source and the receptor. This report determines if direct, indirect and cumulative adverse effects (however minor) will arise from the Variation.

1.4.2 Zone of Influence

Following the source-pathway-receptor process a Zone of Influence (ZOI) is determined based on the characteristics of the Variation (detailed in Section 2) and the foreseen distribution of likely effects through any pathways is identified. Once the ZOI is established, all European Sites within the ZOI will be assessed with specific reference to the sensitive receptors of each site and pathways for effect that relate to the ecological integrity of the site.

1.5 Relationship between the Appropriate Assessment process and the Variation

AA is fully integrated with the various stages of the Variation preparation process in order to help to ensure that the Variation does not affect European Sites. The screening and the assessment of Variation provisions, in the context of mitigation measures and potential effects on European Sites, has been an iterative process throughout each stage of the Variation-preparation process.

The Proposed Variation and accompanying documents (including AA Screening and SEA and SFRA documents) were placed on public display in December 2017, having integrated all recommendations arising from the SEA, AA and SFRA processes. Responses to submissions made on the AA Screening and SEA and SFRA documents during the period of public display of Proposed Variation 2 (a) were integrated into a Chief Executive's Report and considered by Galway County Council.

16 Material Alterations were proposed after public display of the Proposed Variation. Proposed Material Alterations No. 1-6 were determined as requiring Stage 2 AA. Stage 2 AA was undertaken on these Material Alterations and the findings of the AA were placed on public display alongside the Material Alterations. The Elected Members were also informed of the findings. Responses to submissions made on the Stage 2 AA NIR during the period of public display of the Proposed Material Alterations were integrated into a Chief Executive's Report and considered by Galway County Council.

Specific mitigation measures had to be integrated into the Variation in order to avoid potential effects on European Sites arising from the zoning provided for by Material Alterations No. 1 to 6 within floodplains. On adoption of the Variation, this final AA NIR, which is consistent with the adopted Variation 2 (a) and takes into account recommendations made in relevant submissions, was prepared.

Section 2 Description of and background to Variation No. 2 (a)

2.1 Galway County Development Plan

The Galway County Development Plan 2015-2021 sets out an overall strategy for the proper planning and sustainable development of the functional area of Galway County Council. The Plan presents Galway County Council's outlook for future development of its administrative area. It sets out the longer-term vision for the development of the County, while protecting and enhancing its environment through employing the principles of sustainable development in the policies and objectives set out therein.

This Variation builds on the strategies, policies and objectives of the Galway County Development Plan, taking into account recent key development trends and national, regional and local policy developments. In particular, it also takes account of the increased emphasis on flooding, climate change, renewable energy and the need to support economic development. It also takes account of European Union (EU) requirements including the application of Strategic Environmental Assessment and AA to the Plan.

The County Development Plan was subject to SEA, AA and Strategic Flood Risk Assessment (SFRA). The Stage 2 AA for this Plan concluded that:

“Having incorporated mitigation measures, it is considered that the Plan will not have a significant effect on the integrity of the Natura 2000 Network¹.”

Provisions of the County Development Plan that relate to the protection and management of ecological processes are detailed on Table 2.2.

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

Table 2.1 Policies and Objectives contained within the Galway CDP 2015-2021 that relate to the protection of ecological processes

<p>Strategic Aim 10 – Heritage: Enhance and protect the built heritage and natural environment, including buildings, archaeology, landscape and biodiversity, within the County.</p>
<p>Objective DS 5 – Protection and Management of the Assets of the County Protect and manage the assets that contribute to the unique visual and environmental character and sense of identity of County Galway, and which underpin tourism, heritage, biodiversity and quality of life.</p>
<p>Objective DS 6 – Natura 2000 Network and Habitats Directive Assessment Protect European sites that form part of the Natura 2000 network (Including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011(SI No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the Appropriate Assessment Guidelines 2010 (and any updated or subsequent guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorized after the competent authority (Galway County Council) has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and/or a Habitats Directive Assessment where necessary, that: The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of 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. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.</p>
<p>Objective DS 8 – Climate Change Galway County Council shall support the <i>National Climate Change Strategy</i> and follow on document <i>National Climate Change Adaptation Framework Building Resilience to Climate Change 2012</i>, on an ongoing basis through implementation of supporting objectives in this Plan, particularly those supporting the use of alternative and renewable energy sources, sustainable transport, air quality, biodiversity, green infrastructure, coastal zone management, flooding and soil erosion.</p>
<p>Objective DS 9 Projects/Associated Improvement Works/Infrastructure and Appropriate Assessment Ensure that proposed projects and any associated improvement works or associated infrastructure relating to renewable energy projects; water supply and abstraction; wastewater and discharges; flood alleviation and prevention; roads, power lines and telecommunications; and amenity and recreation provision are subject to Appropriate Assessment where relevant.</p>
<p>Objective DS10- Impacts of Developments on Protected Sites Have regard to any impacts of development on or near existing and proposed Natural Heritage Areas, Special Protection Areas and Special Areas of Conservation, Nature Reserves, Ramsar Sites, Wildfowl Sanctuaries, Salmonid Waters, Refuges for Flora and Fauna, Connemara National Park, shellfish waters, freshwater pearl mussel catchments and any other designated sites including future designations.</p>
<p>Objective DS 13 - SEA Monitoring of the Plan Carry out SEA monitoring of the Plan to ensure that any potential significant environmental effects of implementing the plan are identified and can be addressed accordingly.</p>
<p>Objective CS 7 – Core Strategy and the Countryside/Rural Areas Galway County Council shall recognize the important role of the rural areas within the County and shall protect and support these areas through the careful management of its key assets, including its physical and environmental resources, while supporting appropriate development in a balanced and sustainable manner and in accordance with the relevant policies and objectives set out throughout the Plan.</p>
<p>Objective UHO 8 – Urban Design Promote the use of sustainable urban design principles and approaches that will help to create high quality built and natural environments appropriate to the context and landscape setting of the specific area, having regard to the guidance contained in the <i>Sustainable Residential Development in Urban Areas Guidelines 2009</i>, the accompanying <i>Urban Design Manual 2009</i> (or any updated version) and the <i>Design Manual for Urban Roads & Streets (2013)</i> (including any superseding document).</p>
<p>Objective EDT 25 – Wild Atlantic Way Support and facilitate the Wild Atlantic Way project in conjunction with the relevant stakeholders and Galway County Council will actively encourage the creation of spurs to link in with the Wild Atlantic Way as was intended, taking into account environmental sensitivities.</p>
<p>Objective TI 12 – Noise Require all new proposed development, which is considered to be noise sensitive within 300m of existing, new or planned national roads, or roadways with traffic volumes greater than 8,200AADT, to include a noise assessment and mitigation measures if necessary with their planning application documentation. The cost of mitigation measures shall be borne by the developer. Mitigation measures in order to protect the noise environment of existing residential development will be facilitated or enforced as necessary.</p>

<p>Policy WS 5 - Water Quality Promote public awareness of water quality issues and the measures required to protect all waters including all surface water and groundwater bodies.</p>
<p>Objective WS 1 – Protection of Ground Waters Support the protection of groundwater resources and dependent wildlife/habitats in accordance with the Groundwater Directive 2006/118/EC, the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) or any updated legislation and the Groundwater Protection Scheme and source protection plans for water supplies.</p>
<p>Objective WW 1 - EU Policies and Directives Ensure that all wastewater generated is collected, treated and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance and subject to compliance with the provisions and objectives of the EU Water Framework Directive, relevant River Basin Management Plans, Urban Waste Water Directive and the EU Habitats Directive.</p>
<p>Objective WW 6 – Adherence to Environmental Standards Promote the provision of safe and secure wastewater infrastructure to ensure that the public is protected and that permitted development, is within the environmental carrying capacity and does not negatively impact on habitat quality or species diversity.</p>
<p>Objective WW 7 – Surface Water Drainage & Sustainable Drainage Systems (SuDS) Maintain and enhance, as appropriate, existing surface water drainage systems in the County, ensure that new developments are adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems in all new developments.</p>
<p>Objective WW 8 – Substandard Wastewater Treatment Plants Support and facilitate as appropriate the upgrading of substandard public wastewater treatment plants in order to comply with the provisions of the Urban Waste Water Treatment Regulations 2001 and 2004, the Waste Water Discharge (Authorization) Regulations 2007 and implement the relevant recommendations set out in the EPA document <i>Focus on Urban Waste Water Discharges in Ireland</i> (and any subsequent update).</p>
<p>Objective WW9 – Integrated Constructed Wetlands Galway County Council shall support the use of Integrated Constructed Wetlands (ICW) as a low cost and environmentally sustainable alternative having regard to the “Integrated Constructed Wetlands-Guidance Document for Farmyard Soiled Water and Domestic Wastewater Applications” as appropriate.</p>
<p>Objective CC 5 - An Ecosystems Approach and Land Use Galway County Council shall implement an ecosystems approach (holistic approach) to land use and land use change and ensure that climate change adaptation measures are taken into account in planning decisions. The Council shall also a) Have regard to any recommendations and forthcoming recommendations as outlined in the proposed National Raised Bog SAC Management Plan and the National Biodiversity Plan; b) Integrate climate risk into the review of the Biodiversity Action Plan for County Galway 2008 - 2013; c) Seek to control the spread of non-native and alien invasive species on land and water using new regulatory powers.</p>
<p>Objective FL 2 – Surface Water Drainage and Sustainable Drainage Systems (SuDs) Maintain and enhance, as appropriate, the existing surface water drainage system in the County. Ensure that new developments are adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems in all new developments. Surface water runoff from development sites will be limited to pre-development levels and planning applications for new developments will be required to provide details of surface water drainage and Sustainable Drainage Systems proposals.</p>
<p>Objective FL 3 - Protection of Waterbodies and Watercourses Protect waterbodies and watercourses within the County from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include protection buffers in riverine, wetland and coastal areas as appropriate.</p>
<p>Policy NHB 1 – Natural Heritage and Biodiversity It is the policy of Galway County Council to support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas proposed Natural Heritage Areas Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries and Connemara National Park (and other designated sites including any future designations) and the promotion of the development of a green/ecological network within the Plan Area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment.</p>
<p>Policy NHB 2 – Non-Designated Sites Recognize that nature conservation is not just confined to designated sites and acknowledge the need to protect non-designated habitats and landscapes and to conserve the biological diversity in the county.</p>
<p>Policy NHB 3 – Green Infrastructure Protect existing green infrastructure and provide additional green infrastructure where possible such as green roof technology and energy efficiency pumps.</p>

<p>Policy NHB 4– Water Resources Protect, conserve and enhance the water resources of the county, including, rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependent species and seek to protect and conserve the quality, character and features of inland waterways by controlling developments close to navigable and non-navigable waterways.</p>
<p>Policy NHB 5 – Geological and Geo-Morphological Systems Protect, conserve and enhance important geological and geo-morphological systems in the county and seek to promote access to such sites where possible.</p>
<p>Policy NHB 6 – National Biodiversity Plan, Galway County Heritage Plan and Galway County Biodiversity Plan It is the policy of the Council to support the implementation of the <i>National Biodiversity Plan</i> and <i>Galway County Biodiversity Plan</i> and <i>Galway County Heritage Plan</i> in partnership with relevant stakeholder’s subject to available resources.</p>
<p>Policy NHB 7 - Invasive Species It is a policy of the Council to support measures for the prevention and eradication of invasive species. This will include the dissemination of information to raise public awareness, the adoption of codes of practices/standard biosecurity measures in normal Local Authority activities consultation with relevant stakeholders, the promotion of the use of native species in amenity planting and landscaping and the recording of invasive/native species as the need arises and resources permit.</p>
<p>Policy NHB 8 – National Parks and Wildlife Service (NPWS) Management Plans It shall be the policy of the Council to ensure that development takes into account relevant Management Plans prepared by NPWS for SACs and SPAs.</p>
<p>Objective NHB 1 – Protected Habitats and Species Support the protection of habitats and species listed in the Annexes to and/or covered by the EU Habitats Directive (92/43/EEC) (as amended) and Birds Directive (2009/147/EC), and regularly occurring-migratory birds and their habitats, and species protected under the Wildlife Acts 1976-2000 and the Flora Protection Order.</p>
<p>Objective NHB 2– Biodiversity and Ecological Networks Support the protection and enhancement of biodiversity and ecological connectivity within the Plan Area, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stone walls, geological and geo-morphological systems, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.</p>
<p>Objective NHB 3 – Water Resources Protect the water resources in the Plan Area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependent species in accordance with the requirements and guidance in the EU <i>Water Framework Directive 2000 (2000/60/EC)</i>, the <i>European Union (Water Policy) Regulations 2003</i> (as amended), the <i>Western River Basin District Management Plan 2009- 2015</i>, <i>Shannon International River Basin Management Plan 2009-2015</i> and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans.</p>
<p>Objective NHB 4 – Geological and Geo-Morphological Systems Protect and conserve geological and geo-morphological systems, sites and features from inappropriate development that would detract from their heritage value and interpretation and ensure that any Plan or project affecting karst formations, eskers or other important geological and geo-morphological systems are adequately assessed with regard to their potential geophysical, hydrological or ecological impacts on the environment.</p>
<p>Objective NHB 5 – Control of Invasive and Alien Invasive Species Where the potential for spread of invasive species are identified as part of a development proposal the developer will be required to submit an invasive species management plan. A landscaping plan will be required for developments near water bodies and ensure that such plans do not include alien invasive species.</p>
<p>Objective NHB 6 – Protection of Bats and Bats Habitats Seek to protect bats and their roosts, their feeding areas, flight paths and commuting routes. Ensure that development proposals in areas which are potentially important for bats, including areas of woodland, linear features such as hedgerows, stone walls, watercourses and associated riparian vegetation which may provide migratory/foraging uses shall be subject to suitable assessment for potential impacts on bats. This will include an assessment of the cumulative loss of habitat or the impact on bat populations and activity in the area and may include a specific bat survey. Any assessment shall be carried out by a suitably qualified professional and where development is likely to result in significant adverse effects on bat populations or activity in the area, development will be prohibited or require mitigation and/or compensatory measures, as appropriate.</p>
<p>Objective NHB 7 – Eskers Assess applications for quarrying and other proposed developments that are in close proximity to eskers that have the potential to impact on their landscape, scientific or amenity value.</p>

<p>Objective NHB 8 – Coastal Zone It is an objective to protect the coastal zone through the following measures: Ensure that conservation works undertaken in coastal areas are in accordance with best practice and measures to protect the coast, the coastal edge and coastal habitats are supported; Seek to prevent the unauthorized removal of sand and related beach material; Protect, enhance and conserve beaches in the County from inappropriate development and seek to maintain the current status of the designated Blue Flag beaches and Green Coasts and to increase the number of beaches and coasts holding this status in the future; Facilitate an Integrated Coastal Zone Management approach to ensure the conservation, management and protection of man-made and natural resources of the coastal zone; Support the preparation of an Integrated Galway Bay Framework Management Plan by all relevant stakeholders to provide for the sustainable and integrated development of the Galway Bay Area in a coordinated manner.</p>
<p>Objective NHB 9 – Inland Waterways Protect the amenity and recreational value of navigable and non-navigable waterways.</p>
<p>Objective NHB 10 – Protection of the Coastal Zone Protect the amenity, character, visual, recreational, economic potential and environmental values of the coast. Ensure that natural coastal defenses including sand dunes, beaches and coastal wetlands are not compromised by inappropriate development. Conserve the character, quality and distinctiveness of seascapes.</p>
<p>Objective NHB 11 – Trees, Parkland/Woodland, Stone Walls and Hedgerows Protect important trees, tree clusters and hedgerows within the county and ensure that development proposals take cognizance of significant trees/tree stands. Ensure that all planting schemes use suitable native variety of trees, of Irish provenance. Seek to retain natural boundaries, including stone walls, hedgerows and tree boundaries, wherever possible and replace with a boundary type similar to the existing boundary where removal is unavoidable. Discourage the felling of mature trees to facilitate development and encourage tree surgery rather than felling where possible. All works to be carried out in accordance with the provisions of the Forestry Act, 1946.</p>
<p>Objective NHB12 - Soil/Ground Water Protection Developments shall ensure that adequate soil protection measures are undertaken, where appropriate, including investigations into the nature and extent of any soil/groundwater contamination.</p>
<p>Objective NHB 13 – NPWS & Integrated Management Plans Galway County Council shall seek to engage with and support the National Parks & Wildlife Service to ensure Integrated Management Plans are prepared for all Natura 2000 sites and ensure that that such plans are fully integrated with all land use and water management plans in the county, 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.</p>
<p>Objective NHB 14 – Protection of Riparian Zones Protect the riparian zones of watercourse systems throughout the county, recognizing the benefits they provide in relation to flood risk management and their protection of the ecological integrity of watercourse systems and ensure they are considered in the land use zoning in Local Area Plans.</p>
<p>Policy RA 2 – Protection of sensitive areas Protect the amenity of scenic and environmentally sensitive areas and promote the knowledge and appreciation of the natural amenities of the County.</p>

2.2 Variation No. 2 (a) to Galway CDP 2015-2021

Bearna is a coastal village situated on the western edge of Galway City, approximately 6.5km west of the City Centre (Eyre Square) and 11km east of An Spidéal (Spiddal). The village is located at the gateway to Gaeltacht na Gaillimhe (County Galway Gaeltacht), which is the single largest Gaeltacht in the country. Bearna village has a unique character as a result of its fishing and Gaeltacht heritage and an attractive seaside location in close proximity to Galway City. In recent years, Bearna has experienced significant growth in and surrounding the village due to its close proximity to Galway City. According to the Census 2016, the total population of Bearna village was 1,998 people, a 6.4% increase from the 2011 Census figure. While this figure relates to the Census boundary for Bearna village, the population within the Bearna Plan is in excess of 2 000 people and it is envisaged that the village will experience increased growth during implementation of the Variation. Therefore, it is important to effectively plan for this growth, by way of formulating a structured and proactive plan that will enable the village to prosper in a sustainable manner, without compromising the character and setting of the village, thereby contributing to the creation of a high-quality living environment.

The Variation contributes towards the framework for proper planning and sustainable development of Bearna that exists under the Galway County Development Plan 2015-2021. It comprises various written provisions including those relating to land use zoning.

2.2.1 Strategic Vision of the Bearna Plan provided for by Variation 2 (a)

'To promote Bearna as a sustainable and vibrant coastal village, which maintains its attractive character, capitalises on its existing and future accessibility strengths, while offering a pleasant environment for a growing community, for living, shopping, education, business, recreation and tourism, all balanced against the need to safeguard and enhance the environmental sensitivities of the area, for present and future generations to come.'

2.2.2 Guiding Principles

The Strategic Vision is informed by the following guiding principles that will enable the overall vision to be achieved, which include:

- Providing for a sustainable level of development that is appropriate to the character, heritage, amenity and strategic role of Bearna and that allows for the enhancement of the village character, services, facilities and amenities.
- Supporting and protecting the environment, heritage, character and amenity of the village, in particular its Gaeltacht status, fishing heritage, local village character and coastal amenity.
- Promoting a high quality-built environment with a well-developed public realm and promoting appropriate building forms, materials, heights and associated landscaping that complement the distinctive character, heritage and amenity of the village.
- Ensuring that there are a range of facilities, amenities and supporting services, including educational, recreational, religious, social, community and civic requirements for children, youths, adults and older persons, to serve a growing community, as well as visitors to Bearna.
- Ensuring Bearna is well connected to, but has a strong local identity separate from, nearby settlements, in particular Galway City to the east and Na Forbacha to the west.
- Optimising the potential of the village's coastal location and amenity, particularly in relation to the provision of public access to the seashore, opportunities for water-related amenities and activities and an appropriate interface between land and sea.
- Maintaining a vibrant and accessible village centre that is within walking/cycling distance from most places in the village, that has a strong focal point with Bearna Pier and the harbour and that provides a range of community facilities and commercial services for the local community.
- Supporting an appropriate level of services and infrastructure to facilitate existing and future growth and sustainable development, in a manner that protects and is complementary to the environment, heritage, character and amenities of the village.

- Promoting a strong sense of community spirit, civic pride, local identity and social inclusiveness, and promoting the status of the Irish language in Bearna and its contribution to the linguistic heritage of An Gaeltacht.

2.3 Relationship with other Relevant Plans and Programmes

2.3.1 Ireland 2040 – Our Plan, the National Planning Framework

The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between. The National Planning Framework and accompanying National Development Plan share ten National Strategic Outcomes as follows:

1. Compact Growth
2. Enhanced Regional Accessibility
3. Strengthened Rural Economies and Communities
4. Sustainable Mobility
5. A Strong Economy, supported by Enterprise, Innovation and Skills
6. High-Quality International Connectivity
7. Enhanced Amenity and Heritage
8. Transition to a Low-Carbon and Climate-Resilient Society
9. Sustainable Management of Water and other Environmental Resources
10. Access to Quality Childcare, Education and Health Services

2.3.2 Regional Spatial Economic Strategy (Replacing Regional Planning Guidelines; to commence in 2018 and will be adopted over lifetime of the Plan)

Regional Planning Guidelines (RPGs) provide long-term strategic planning frameworks and will be replaced by Regional Spatial and Economic Strategies (RSESs).

Each one of the three Regional Assemblies will prepare their own RSES, with the Northern and Western Regional Assembly, of which Galway County Council is part, responsible for the preparation of a RSES for the Northern and Western Region. The Regional Spatial and Economic Strategies will provide a long-term regional level strategic planning and economic framework in support of the implementation of the National Planning Framework.

2.3.3 Galway County Development Plan 2015-2021

Development proposals under the Bearna Plan, which is provided for by Variation 2 (a) to the Galway CDP, must comply with the measures currently in force through the CDP.

The Galway CDP vision is to "enhance the quality of life of the people of Galway and maintain the County as a uniquely attractive place in which to live, work, invest and visit, harnessing the potential of the county's competitive advantages in a sustainable and environmentally sensitive manner."

2.3.4 Environmental Protection Objectives

Variation No. 2 (a) is subject to a number of high level environmental protection policies and objectives with which it must comply. Examples of Environmental Protection Objectives include the aims 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 Appropriate Assessment Screening

3.1 Introduction to Screening

3.1.1 Background to Screening

This stage of the process identifies any likely significant effects to European Sites from a project or plan, either alone or in combination with other projects or plans. The screening phase was progressed in the following stages. A series of questions are asked during the Screening Stage of the AA process in order to determine:

- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European Site; and
- Whether the project will have a potentially significant effect on a European Site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.

An important element of the AA process is the identification of the "conservation objectives", "Qualifying Interests" (QIs) and/ or "Special Conservation Interests" (SCIs) of European Sites requiring assessment. QIs are the habitat features and species listed in Annexes I and II of the Habitats Directive for which each European Site has been designated and afforded protection. SCIs are wetland habitats and bird species listed within Annexes I and II of the Birds Directive. It is also vital that the threats to the ecological / environmental conditions that are required to support QIs and SCIs are considered as part of the assessment.

Site-Specific Conservation Objectives (SSCOs) have been designed to define favourable conservation status for a particular habitat or species at that site. According to the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the Habitats Directive 92/43/EEC', paragraph 4.6(3) states:

"The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."

Favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The screening stage of the AA takes account of the elements detailed above with regard to the details and characteristics of the project or plan to determine if potential for effects to the integrity of the European Site are likely.

3.1.2 Desktop Studies

The ecological desktop study completed for this AA comprised the following elements:

- The existing Galway County Development Plan and associated reports (including the AA NIR);
- All written submissions and previous iterations of the Variation preparation process;
- Identification of European Sites within 15 km with identification of potential pathways links for specific sites (if relevant) greater than 15 km from the area to which the Variation relates;

- Review of the National Parks and Wildlife Service (NPWS) site synopsis and conservation objectives for European Sites with identification of potential pathways from the area to which the Variation relates; and
- A series of ecological desk studies were undertaken to inform the assessment. This included but is not limited to the collation of information on protected species including Bats, Otters, Bird species (including Annex I species), Annex II habitat types, protected and Red Data Book Flora species, invertebrates and amphibians. The results of these studies are included as part of the Appropriate Assessment where they were deemed relevant to the European Sites and their QIs/SCIs.

3.2 Identification of Relevant European Sites

This section of the screening process describes the European Sites which exist within the ZOI of the site. The DEHLG (2009) Guidance on AA recommends a 15 km buffer zone be considered. It is foreseen that in the absence of significant hydrological links the characteristics of the Variation No. 2 (a) (detailed in Section 2) will not impose effects beyond this ZOI.

European Sites that occur within 15 km of the Variation No. 2 (a) are listed in Table 3.1 and illustrated in Figure 3.1 below. Details on the specific qualifying features and special conservation interests of each European Site are also identified in Table 3.1.

In order to determine the potential for effects from the Variation No. 2 (a), information on the qualifying features, known vulnerabilities and threats to site integrity pertaining to any potentially affected European Sites was reviewed. Background information on threats to individual sites and vulnerability of habitats and species that was used during this assessment included the following:

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

Only five of the thirteen sites identified within the ZOI have SSCOs produced by the NPWS. The targets and attributes of these conservation objectives were considered in the assessment for each of the sites. Since the conservation objectives for the European Sites focus on maintaining the favorable conservation condition of the QIs/SCIs of each site, the screening process concentrated on assessing the potential effects of the Variation No. 2 (a) against the ecological requirements and sensitivities of the QIs/SCIs of each site.

The site-specific threats and vulnerabilities of each of the sites are detailed in Appendix I.

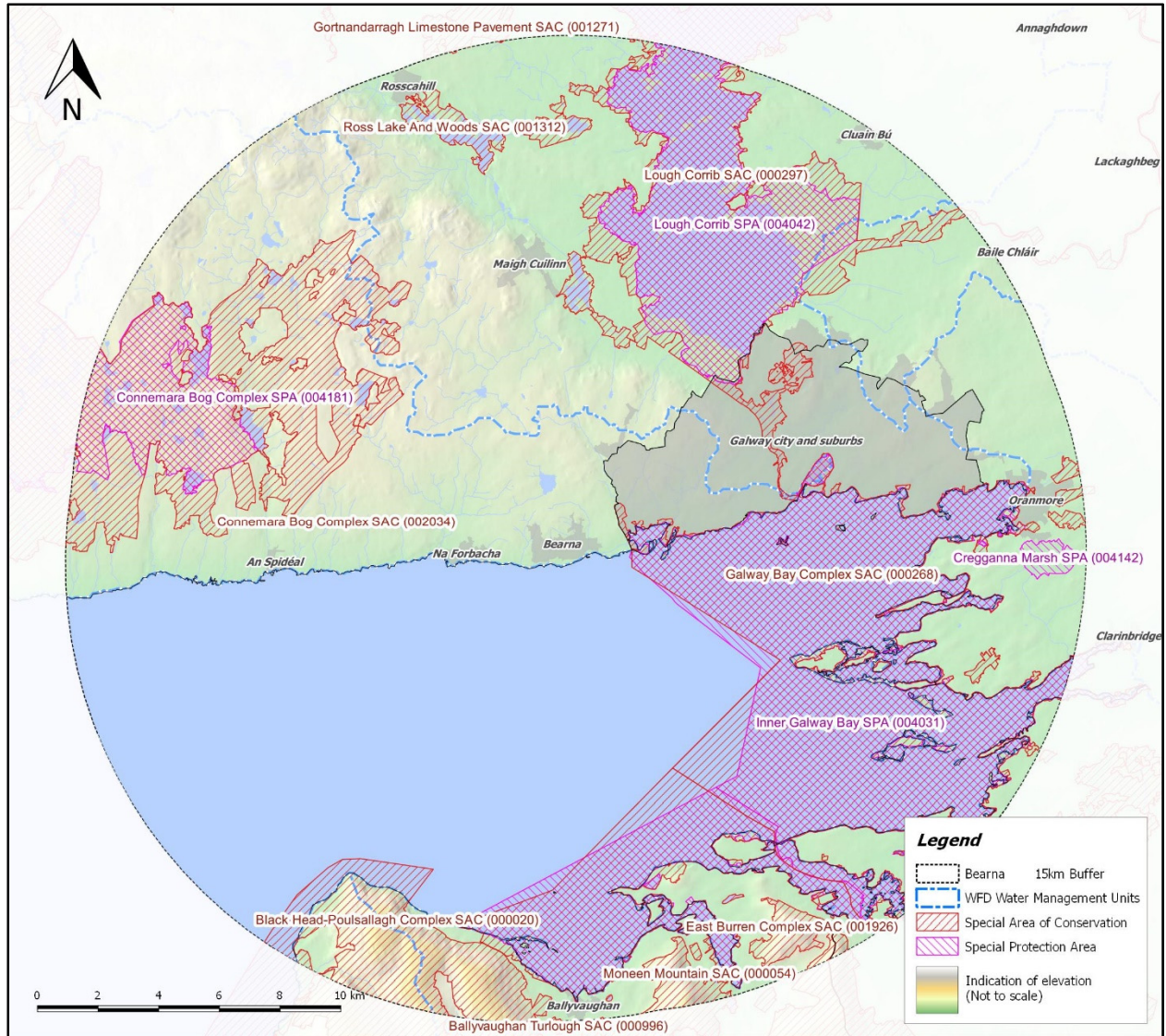


Figure 3.1 European sites within 15 km of the Variation No. 2 (a) boundary

Table 3.1 European Sites within 15 km of the Variation No. 2 (a) boundary in County Galway

Site Code	Site Name ²	Distance (km)	Site Vulnerability/Sensitivity
000268	Galway Bay Complex SAC ³	Directly adjacent	A main concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities. Reef and sediment communities are vulnerable to disturbance or compaction from tractors accessing oyster trestles. The <i>Paracentrotus lividus</i> populations have been shown to be vulnerable to overfishing. Extraction of maerl in Galway Bay is a threat. Owing to the proximity of Galway city, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities. Eutrophication is probably affecting some of the lagoons and is a continued threat. Drainage is a general threat to the turlough and fen habitats. Bird populations may be disturbed by aquaculture activities.
004031	Inner Galway Bay SPA ⁴	Directly adjacent	While there are no imminent threats to the birds, a concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities and could affect food stocks of divers, sea duck and other birds. Bird populations may also be disturbed by aquaculture activities. Owing to the proximity of Galway City, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities
000297	Lough Corrib SAC ⁵	4.90	The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (<i>Aphanomyces astaci</i>) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development.
004042	Lough Corrib SPA ⁶	5.29	Any deterioration in water quality of the lake would be of concern for the wintering birds and perhaps the breeding <i>Melanitta nigra</i> , though the condition of the lake has been satisfactory in recent years.
002034	Connemara Bog Complex SAC ⁷	5.98	Adjacent areas of high scientific interest, which would have formerly been included as part of the site, have been damaged as a result of afforestation. There is still a real threat that further areas within the site will be drained and planted with coniferous trees, a process which must be prevented. Widespread grazing by cattle and sheep has damaged parts of the peatland landscape. Peat cutting, by hand and machine, is ongoing within the site but is generally confined to the more accessible areas. Deliberate burning of bog and heath is a further threat.
004181	Connemara Bog Complex SPA ⁸	9.09	No known threats recorded
000020	Black Head-Poulsallagh Complex SAC ⁹	10.39	The main threats to the site are from agricultural improvement activities to the grassland, heath and scrub habitats. Further land improvements in the Caher River valley should be prevented so as to maintain water quality. Extension to the caravan park at Fanore poses a threat to the presence of <i>Petalophyllum ralfsii</i> . The shoreline would be vulnerable to

² Listed according to distance; Qualifying features for each site can be found in Appendix I.

³ NPWS (2013) Conservation Objectives: Galway Bay Complex SAC 000268. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

⁴ NPWS (2013) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

⁵ NPWS (2017) Conservation Objectives: Lough Corrib SAC 000297. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

⁶ NPWS (2016) Conservation objectives for Lough Corrib SPA 004042. Generic Version 5.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

⁷ NPWS (2016) Conservation Objectives: Connemara Bog Complex SAC 002034. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

⁸ NPWS (2016) Conservation objectives for Connemara Bog Complex SPA 004181. Generic Version 5.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

⁹ NPWS (2014) Conservation Objectives: Black Head-Poulsallagh Complex SAC 000020. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Site Code	Site Name ²	Distance (km)	Site Vulnerability/Sensitivity
			oil spills, and over collection of <i>Paracentrotus lividus</i> , although many are below the market size.
001312	Ross Lake And Woods SAC ¹⁰	10.85	The lake is vulnerable to water polluting operations from the surrounding agricultural and forestry activities. The main threat to the bat populations would be human disturbance or a change of use of the building, but neither of these seem apparent at present.
001926	East Burren Complex SAC ¹¹	12.36	The main threat to this site is from agricultural improvement activities - these involve clearance of limestone pavement and associated habitats (heaths and grassland), subsequent reseeding, fertilization and then grazing. Heavy grazing pressures is a threat to the lowland areas of the site. The water quality of the various wetlands is vulnerable to run-off from agricultural lands.
004142	Cregganna Marsh SPA ¹²	12.88	The main threat to the geese at this site is disturbance from existing developments and potential developments in the surrounding areas, reflecting the proximity of the site to Galway City. Any attempts at draining the remaining wetland vegetation (marsh and wet grassland) could make the site less attractive for feeding geese.
000054	Moneen Mountain SAC ¹³	12.92	Agriculture activities in the form of fertilizer application, inappropriate grazing regimes and land reclamation pose the greatest threats to the future of the site. The colony of <i>Rhinolophus hipposideros</i> is subject to periodic disturbance due to human presence. Also, the building used by the bats is in poor condition.
001271	Gortnandarragh Limestone Pavement SAC ¹⁴	14.99	The site is vulnerable to scrub invasion through lack of grazing and to land reclamation and quarrying. The two last-named activities have both occurred to a small extent within the site.
000996	Ballyvaughan Turlough SAC ¹⁵	15.00	The site seems to be largely unaffected by intensive pastures at the western end but is obviously susceptible to eutrophication. It is one of five wetlands in a small area so bird disturbance by hunting is not likely to be significant.

*Indicates priority habitat

¹⁰ NPWS (2018) Conservation objectives for Ross Lake and Woods SAC 001312. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹¹ NPWS (2018) Conservation objectives for East Burren Complex SAC 001926. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹² NPWS (2018) Conservation objectives for Cregganna Marsh SPA 004142. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹³ NPWS (2018) Conservation objectives for Moneen Mountain SAC 000054. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹⁴ NPWS (2018) Conservation objectives for Gortnandarragh Limestone Pavement SAC 001271. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹⁵ NPWS (2018) Conservation objectives for Ballyvaughan Turlough SAC 000996. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht

3.3 Assessment Criteria

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

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

The primary purpose of Variation No. 2 (a) to the CDP is not the nature conservation management of the sites, but to amend the proposed framework for the planned, co-ordinated and sustainable development set out in Variation No. 2 (a). Therefore, Variation No. 2 (a) is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

3.3.2 Elements of the Variation No. 2 (a) with Potential to Give Rise to Effects

The Variation contributes towards the framework for proper planning and sustainable development of Bearna that exists under the Galway County Development Plan 2015-2021. Development proposals under the Bearna Plan, which is provided for by Variation 2 (a) to the Galway CDP, must comply with the measures currently in force through the CDP.

The CDP was subject to a Stage 2 AA that facilitated the inclusion of mitigation measures into the CDP to contribute towards the protection of the ecological integrity of European Sites. The Variation provides additional measures that afford protection to European Sites. Objective CF7 provides for a general building setback of 30m from the foreshore field boundary line to allow for the development of the coastal amenity park and a seaside promenade, cycleway, children's playground(s), landscaped amenity space and improved access routes to the local beaches, Bearna Pier and water-based activities. . This setback provides a general minimum buffer distance from potential effects arising from development outside of the buffer in the area to which the Variation relates. Objective BNH3 'European Environmental Compliance' provides that 'All proposed developments shall be in accordance with the Birds and Habitats Directives, Water Framework Directive and all other relevant EC Directives'. This ensures that the Coastal Amenity Park supported by Objective CF4 must comply with the Habitats Directive. Additionally, objective CF4 states that 'the design of any works being undertaken to achieve this objective shall be informed from the outset by ecological considerations'.

The Variation provides for a range of incompatible uses within areas that are at elevated risk of flooding. This introduces the potential sources for effects not previously considered – as a result of heightening flood risk to inappropriate uses. The development of these lands for these inappropriate uses could result in contaminated waters entering the surface water system. This could result in the mobilisation of suspended solids and contaminants such as heavy metals into Galway Bay. These potential effects are considered as part of this assessment.

3.3.3 Identification of Potential Effects

This section documents the final stage of the screening process. It has used the information collected on the sensitivity of each European Site and describes any potential effects to the integrity of European Sites resulting from the Variation No. 2 (a). This assumes the absence of any controls, conditions, or mitigation measures. In determining the potential for effects, a number of factors have been taken into account: firstly, the sensitivity and reported threats to European Sites; and secondly, the individual elements of the Variation and the potential effect they may cause to the site were considered. The elements of the Variation No. 2 (a) with potential to cause effect to the integrity of European Sites are presented in Table 3.2 below.

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

- Where it can be shown that there are significant pathways such as hydrological links between activities of the Variation No. 2 (a) to the CDP, and the site to be screened;
- Where the site is located at such a distance from Variation No. 2 (a) to the CDP that effects are not foreseen; and
- Where it is that known threats or vulnerabilities at a site cannot be linked to potential impacts that may arise from the Variation No. 2 (a) to the CDP.

Table 3.2 Screening of European Sites within 15 km of the area to which Variation No. 2 (a) relates

Site Code	European Site	Distance (km)	Potential effects	Pathway for Significant Effects	Potential for In-Combination Effects
000268	Galway Bay Complex SAC	Directly Adjacent	<p>The NPWS have identified that effluent and debris could be detrimental to benthic communities. The SSCOs also focus on the flood regime of the SAC being an important feature of the SAC.</p> <p>The zoning maps identified zoning objectives for development within Flood Zones A and B. This introduces potential for contaminated waters entering the surface water system, if these lands are developed for inappropriate uses. This could result in the mobilization of suspended solids and contaminants such as heavy metals into Galway Bay.</p> <p>Further consideration of the targets and attributes of the SSCOs are required to ensure the ecological integrity of the site is maintained.</p>	Yes	Yes
004031	Inner Galway Bay SPA	Directly Adjacent	<p>The zoning maps identified zoning objectives for development within Flood Zones A and B. This introduces potential for contaminated waters entering the surface water system, if these lands are developed for inappropriate uses. This could result in the mobilization of suspended solids and contaminants such as heavy metals into Galway Bay.</p> <p>Further consideration of the targets and attributes of the SSCOs are required to ensure the ecological integrity of the site is maintained.</p>	Yes	Yes
000297	Lough Corrib SAC ¹⁶	4.90	Lough Corrib is sensitive to changes in hydrological characteristics and water quality. However, there is no hydrological pathway from Bearna to the SAC. The site is designated for habitats and species that are vulnerable to land use practices and localised effects. There are no sources for effects in this regard due to the distances. The site is designated for the Lesser Horseshoe Bat, which can have ranges in excess of 4 km ¹⁷ . Therefore, there are no pathways for effects. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
004042	Lough Corrib SPA ¹⁸	5.29	There are no SSCOs for this site. There are no hydrological pathways between the site and the area to which the Variation relates. There are no sources for effects that will affect the ecological integrity of the site given the distance between the site and the area to which the Variation relates ¹⁹ . There are no additional sources for effects with pathways top the SPA introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
002034	Connemara Bog Complex SAC ²⁰	5.98	The SSCOs identify the coastal elements of the designation are in the Kilkieran Bay area. There are no pathways for effects to the hydrological characteristics of the SAC given the location of the area to which the Variation relates. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
004181	Connemara Bog Complex SPA ²¹	9.09	There are no SSCOs for this site. There are no hydrological pathways between the site and the area to which the Variation relates. There are no sources for effects that will affect the ecological integrity of the site given the distance between the site and the area to which the Variation relates ²² . There are no additional sources for effects with pathways top the SPA introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No

¹⁶ NPWS (2017) Conservation Objectives: Lough Corrib SAC 000297. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

¹⁷ Bontadina, F., Schofield, H. and Naef-Daenzer, B., 2002. Radio-tracking reveals that lesser horseshoe bats (*Rhinolophus hipposideros*) forage in woodland. *Journal of Zoology*, 258(3), pp.281-290.

¹⁸ NPWS (2018) Conservation objectives for Lough Corrib SPA [004042]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

¹⁹ SNH (2007) A Review of Disturbance Distances in Selected Bird Species Ruddock M & Whitfield D.

²⁰ NPWS (2015) Conservation Objectives: Connemara Bog Complex SAC 002034. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

²¹ NPWS (2018) Conservation objectives for Connemara Bog Complex SPA [004181]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

²² SNH (2007) A Review of Disturbance Distances in Selected Bird Species Ruddock M & Whitfield D.

000020	Black Head-Poulsallagh Complex SAC ²³	10.39	The threats identified by the NPWS to the site relate to land use activities within the SAC. The Variation contains no provisions that relate to these identified threats. The targets and attributes of the SSCOs for the reefs relate to the distribution, size and structural composition/community dynamics of the reef systems. These are shown to be along the Clare coast across the Galway Bay which introduce a significant dilution influence. There are no sources within the Variation that were determined to have significant effects on SSCOs of the site. The other QIs are terrestrial habitats and sea caves. There are no sources for effects with pathways identified between the Variation and the SAC in relation to these.	No	No
001312	Ross Lake and Woods SAC ²⁴	10.85	This site is designated for oligo-mesotrophic waters, which are sensitive to hydrodynamic interactions. However, there are no hydrological pathways for effects to the SAC. The site is also designated for the Lesser Horseshoe Bat, which can have ranges in excess of 4 km ¹⁷ . Therefore, there are no pathways for effects. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
001926	East Burren Complex SAC ²⁵	12.36	The site is designated for the Lesser Horseshoe Bat, which can have ranges in excess of 4 km ¹⁷ . Therefore, there are no pathways for effects. The site is also designated for habitats that are dependent on groundwater conditions and local land use practices. Given the distances between the sites and absence of hydrological pathways, there are no significant effects identified. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
004142	Cregganna Marsh SPA ²⁶	12.88	There are no SSCOs for this site. There are no hydrological pathways between the site and the area to which the Variation relates. There are no sources for effects that will affect the ecological integrity of the site given the distance between the site and the area to which the Variation relates ²² . There are no additional sources for effects with pathways to the SPA introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
000054	Moneen Mountain SAC ²⁷	12.92	The site is designated for the Lesser Horseshoe Bat, which can have ranges in excess of 4 km ¹⁷ . Therefore, there are no pathways for effects. The site is also designated for habitats that are dependent on groundwater conditions and local land use practices. Given the distances between the sites and absence of hydrological pathways, there are no significant effects identified. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
001271	Gortnandarragh Limestone Pavement SAC ²⁸	14.99	The site is also designated for habitats that are dependent local land use practices. There are no sources for effects to the ecological integrity of the SAC contained within the Variation. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No
000996	Ballyvaughan Turlough SAC ²⁹	15.00	The site is designated for habitats that are dependent on groundwater conditions and local land use practices. Given the distances between the sites and the absence of hydrological pathways, there are no significant effects identified. There are no additional sources for effects with pathways to the SAC introduced by the Variation that were not considered in the existing CDP and associated AA NIR.	No	No

²³ NPWS (2014) Conservation Objectives: Black Head-Poulsallagh Complex SAC 000020. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

²⁴ NPWS (2018) Conservation objectives for Ross Lake and Woods SAC [001312]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

²⁵ NPWS (2018) Conservation objectives for East Burren Complex SAC [001926]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht

²⁶ NPWS (2018) Conservation objectives for Cregganna Marsh SPA [004142]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

²⁷ NPWS (2018) Conservation objectives for Moneen Mountain SAC [000054]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

²⁸ NPWS (2018) Conservation objectives for Gortnandarragh Limestone Pavement SAC [001271]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

²⁹ NPWS (2018) Conservation objectives for Ballyvaughan Turlough SAC [000996]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.

3.4 Other Plans and Programs

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely impact upon European Sites. Table 3.3 outlines plans or projects that may interact with the Variation No. 2 (a) to cause in-combination effects to European Sites. The plans or projects are listed according to a spatial hierarchy of National, Regional/Local Projects and Plans, as follows:

- Ireland 2040 – Our Plan, the National Planning Framework
- Grid 25
- Energy Policy framework 2007-2020, Governments White Paper
- Irish Water’s Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016
- Regional Spatial Economic Strategy (Replacing Regional Planning Guidelines; to commence in 2018 and will be adopted over lifetime of the Plan)
- Galway City Area Transport Strategy 2016
- Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)
- Ireland’s First National Cycle Policy Framework (2009)
- Mayo County Development Plan 2014-2020
- Roscommon County Development Plan 2016-2022
- Offaly County Development Plan 2014-2020
- North Tipperary County Development Plan 2010 – 2016(as extended)
- Clare County Development Plan 2017-2023
- Galway City Council Development Plan 2017-2023
- County Galway Wind Energy Strategy

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Variation No. 2 (a), it is recognised that the identification of in-combination effects is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the project-level.

As development under the Variation have to comply with the policies and objectives of Galway CDP as well as higher-level plans (detailed above) the potential for effects to European Sites are thought to be very low. Therefore, in-combination effects to the integrity of European Sites are not seen to be likely.

Table 3.3 Plans or projects within the ZOI of Variation No. 2 (a) that may have in-combination effects European Sites

Plan or project	Status	Overview	Possible significant effects from plan or project	Is there a risk of in-combination effects	Possible significant in-combination effects
Ireland 2040 - Our Plan, the National Planning Framework (and associated National Development Plan)	Published	The National Planning Framework is the Government's high-level strategic plan for shaping the future growth and development of to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment - from villages to cities, and everything around and in between.	This Framework was subject to SEA and AA which incorporated robust mitigation measures into the Framework to minimise effects.	Potential in-combination effect may arise where there is a requirement to provide for new infrastructure or where new development occurs. Provision of infrastructure/development may result in: <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation 	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.
Grid 25	Published	Grid25 is a high-level strategy outlining how EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 strategy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25 are intended to be implemented.	This Strategy was subject to SEA and AA which incorporated robust mitigation measures into the Strategy to minimise effects.	Potential in-combination effects may arise where there is a requirement to provide for new electrical infrastructure or where associated development occurs. Provision of infrastructure/development may result in: <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation. 	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.
Energy Policy framework 2007-2020, Governments White Paper	Published	This policy states that the Government is committed to delivering a significant growth in renewable energy as a contribution to fuel diversity in power generation with a 2020 target of 33% electricity consumption	Lower tier plans and projects are required to be subject to environmental assessment processes.	Potential in-combination effects may arise where there is a requirement to provide for new wind energy infrastructure or where new associated development occurs. Provision of infrastructure/development may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	Published	This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the	This Plan was subject to SEA and AA which incorporated robust mitigation measures into the Plan to minimise effects.	Potential in-combination effects may arise where there is a requirement to provide for new water and waste water infrastructure and capacity. Meeting additional potable water demands and waste water treatment demands	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise

		priorities to be tackled in the short and medium term.		<p>arising from the proposed increase in population has the potential to adversely affect, in the case of abstractions from and effluent discharges to surface waters, the ecological status of surface waters and, in the case of groundwater abstractions, the quantitative status of groundwaters. Such demands would occur in-combination with those in adjoining counties. Adverse effects on the ecological status of surface waters and on the quantitative status of groundwaters would have the potential to impact upon protected species and habitats.</p> <p>Provision of infrastructure and increases in capacity may result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation 	<p>effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.</p>
Regional					
<p>Regional Planning Guidelines for the West Region 2010 – 2022, to be replaced by Regional Spatial and Economic Strategy</p>	Published	<p>Regional Planning Guidelines (RPGs) provide long-term strategic planning frameworks and will be replaced by Regional Spatial and Economic Strategies (RSESs).</p> <p>Each one of the three Regional Assemblies will prepare their own RSES, with the Northern and Western Regional Assembly, of which Galway County Council is part, responsible for the preparation of a RSES for the Northern and Western Region. The Regional Spatial and Economic Strategies will provide a long-term regional level strategic planning and economic framework in support of the implementation of the National Planning Framework.</p>	<p>The Guidelines were subject to SEA and AA which incorporated robust mitigation measures into the Guidelines to minimise effects.</p>	<p>Potential in-combination effects may arise where there is a requirement to provide for new infrastructure or where new development occurs.</p> <p>Provision of infrastructure/development may result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation 	<p>No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.</p>

Galway City Area Transport Strategy 2016 Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009) Ireland’s First National Cycle Policy Framework (2009)	Published	Outlines policies for how sustainable travel and transport systems can be achieved to create a connected city region driven by smarter mobility.	Lower tier plans and projects are required to be subject to environmental assessment processes.	Potential for in-combination effects may arise where there is a requirement to provide for new transport infrastructure or increase capacity of existing infrastructure/services. Provisions for the development of transport infrastructure/associated development may potentially result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.
Local					
Mayo County Development Plan 2014-2020 Roscommon County Development Plan 2016-2022 Offaly County Development Plan 2014-2020 North Tipperary County Development Plan 2010 – 2016(as extended) Clare County Development Plan 2017-2023 Galway City Council Development Plan 2017-2023	Published	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	These plans were subject to SEA and AA which incorporated robust mitigation measures into the plans to minimise effects.	Galway shares its boundary with a number of counties. Furthermore, a number of European sites are located in more than one county. Similar development plans are in existence throughout the region, accordingly these plans acting alone or in combination can have a cumulative impact on European sites located within County Galway. Provision of infrastructure or where new development occurs may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.
Co. Galway Wind Energy Strategy	Published	The Strategy supports a plan led approach to wind energy development in County Galway and sets out a) Strategic Areas, b) Acceptable in Principle Areas, and c) areas Open for Consideration.	This Strategy was subject to SEA and AA which incorporated robust mitigation measures into the Strategy to minimise effects.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation	No; the mitigation measures contained within this document, the Variation (including measures proposed as part of this AA and implemented into the Variation) and the CDP prioritise the avoidance of effects where possible and provide measures to minimise effects. In combination effects from project(s) which arise from the implementation of these documents will not be significant.

3.5 Conclusions

The likely effects that could arise from the Variation No. 2 (a) to the Galway County Development Plan 2015-2021 have been examined in the context of a number of factors that could potentially affect the integrity of any European Site. On the basis of the findings of this Screening for AA, it is concluded that the Variation:

- Is not directly connected with or necessary to the management of a European Site; and
- May have significant impacts on any European Site.

Therefore, applying the precautionary principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 AA is required (see Section 4 of this report).

Section 4 Stage 2 Appropriate Assessment

4.1 Introduction

The main objective of the Stage 2 AA is to determine whether the Variation No. 2 (a) would result in significant adverse impacts on the integrity of any European Site with respect to the site's structure, function, and/or conservation objectives.

The Stage 1 Screening presented above has identified two European Sites with potential to be affected by the Variation No. 2 (a) (see Table 4.1). Therefore, taking a precautionary approach, Stage 2 AA is required. The potential adverse effects considered at this stage will either be effects occurring as a result of the implementation of the Variation alone or in-combination with other plans, programmes, and/or projects.

Detailed information relevant to the sites that has been reviewed to inform the AA includes the following:

- NPWS Site Synopsis;
- Natura 2000 Standard Data Form; and
- Conservation Objectives and supporting documents.

Table 4.1 European Sites Potentially Impacted upon by the Variation No. 2 (a).

Coastal & Marine	Lakes, Rivers & Aquatics Vegetation	Caves, woodland, & Bats	Bog Habitats	SPA
Galway Bay Complex SAC	-	-	-	Inner Galway Bay SPA

4.2 Characterisation of European Sites Potentially Affected

The AA Screening identified two European Sites with pathway receptors for potential impacts. These sites are directly adjacent to the area to which the Variation relates. Therefore, it is necessary to characterise each of these sites and the sensitivities of their qualifying interests, special conservation interests or their conservation objectives.

Table 4.2 characterizes each of the qualifying interests of the two European Sites brought forward from stage 1 (Table 4-1). These are described in context of each of the sites vulnerabilities in Appendix I. Each of these site characterizations were taken from the NPWS website³⁰.

³⁰ NPWS (2018), last accessed 27th July 2018; <https://www.npws.ie/protected-sites>

Table 4.2 Characterisation of Qualifying Interests/Special Conservation Interests of European Sites potentially impacted upon by Variation No. 2 (a)

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Targets and Attributes of the SSCOs
000268	Galway Bay Complex SAC ³¹	Directly adjacent	Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Turloughs [3180] Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210] Alkaline fens [7230] Limestone pavements [8240] <i>Lutra lutra</i> (Otter) [1355] <i>Phoca vitulina</i> (Harbour Seal) [1365]	<p>The targets and attributes of the SSCOs for the site relate to habitat area, community dynamics, maintenance of salinity level and hydrological characteristics. Specific targets also focus on the depth of Macrophyte colonies and general species composition of taxa. There is a large focus on maintaining the vegetation structure and function of floral communities both in the marine habits and the terrestrial coastal habitats.</p> <p>A key target for this assessment is the maintenance of the natural flood regime whereby the lowest levels of the saltmarsh are flooded daily, while the upper levels are flooded occasionally (e.g. highest spring tides). This is to ensure that a typical flora of saltmarshes is maintained, as are the range of sub-communities within the different zones.</p>
004031	Inner Galway Bay SPA ³²	Directly adjacent	Great Northern Diver (<i>Gavia immer</i>) [A003] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey Heron (<i>Ardea cinerea</i>) [A028] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Shoveler (<i>Anas clypeata</i>) [A056] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Sandwich Tern (<i>Sterna sandvicensis</i>) [A191] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]	<p>The targets and attributes of the SSCOs for the site relate to connectivity of habitats, distribution of species and the avoidance of disturbance effects. There is a focus on the maintenance of prey biomass and breeding sites to ensure positive outcomes for species population trends.</p> <p>The attributes to wetland habitats focuses on the habitat area.</p>

³¹ NPWS (2013) Conservation Objectives: Galway Bay Complex SAC 000268. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

³² NPWS (2013) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

4.3 Identifying and Characterising Potential Significant Effects

The following parameters are described when characterising impacts (following CIEEM (2016), EPA (2002) and NRA (2009)):

Direct and Indirect Impacts - An impact can be caused either as a direct or as an indirect consequence of a proposed development.

Magnitude - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.

Extent - The area over which the impact occurs – this should be predicted in a quantified manner.

Duration - The time for which the effect is expected to last prior to recovery or replacement of the resource or feature.

- Temporary: Up to 1 Year;
- Short Term: The effects would take 1-7 years to be mitigated;
- Medium Term: The effects would take 7-15 years to be mitigated;
- Long Term: The effects would take 15-60 years to be mitigated; and
- Permanent: The effects would take 60+ years to be mitigated.

Likelihood – The probability of the effect occurring taking into account all available information.

- Certain/Near Certain: >95% chance of occurring as predicted;
- Probable: 50-95% chance as occurring as predicted;
- Unlikely: 5-50% chance as occurring as predicted; and
- Extremely Unlikely: <5% chance as occurring as predicted.

The Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for ecological impact assessment (2016) define: an ecologically significant impact as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area; and the integrity of a site as the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

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

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

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

Generic Conservation Objectives for cSACs have been provided as follows:

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

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

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

4.3.1 Identification of Potential Effects

Potential impacts from the Draft LAP which have, alone and/or in combination, been identified to result in adverse effects upon the QIs/SCIs or integrity of European Sites. Ecological impact assessment of potential impacts on European Sites is conducted utilizing a standard source-pathway-resource process; where, all three elements of this mechanism must be in place to establish an effect arising.

As outlined in the European Commission Environment DG document "*Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*", impacts that could potentially occur through the implementation of the Draft LAP can be categorised under a number of headings:

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

Each of these elements are considered below with reference to the QIs/SCIs of all of the European Sites brought forward from Stage 1 of the AA process. A detailed analysis of each sites individually can be found below in Table 4.3.

4.3.1.1 Reduction of Habitat Area

The Galway Bay Complex SAC and Inner Galway Bay SPA are directly adjacent to the boundary of the Variation Boundary along the coastal edge. The Variation also includes objectives relating to coastal edge development which provide for a general building setback of 30m from the foreshore field boundary line and require the integration of ecological considerations into the development of a coastal amenity park.

Objective CF4 - Coastal Amenity Park

Support the creation of a Coastal Amenity Park, extending from Mag's Boreen to Lacklea Boreen, to serve the recreation and amenity needs of the Bearna community, to provide an appropriate public interface between the village and the coastline and to create a focal point and attractive setting for high quality tourism and mixed-use development on adjoining lands. The design of any works being undertaken to achieve this objective shall be informed from the outset by ecological considerations.

Objective CF7 - Coastal Setback

Ensure a general building setback of 30m from the foreshore field boundary line to allow for the development of the coastal amenity park and a seaside promenade, cycleway, children's playground(s), landscaped amenity space and improved access routes to the local beaches, Bearna Pier and water-based activities.

Objective LU9 - Coastal Edge Zoning

a) The coastal edge will be conserved and enhanced, as appropriate as a strategic high amenity resource, providing opportunities for recreation, conservation and local amenity, whilst avoiding development which would have a detrimental impact on this area.

b) Genuine rural housing need shall be considered within the Coastal Edge Zone in accordance with the provisions as set out under objectives in Chapter 3 of the County Development Plan 2015-2021.

No specific development within the boundaries of any European Site has been identified by the variation. Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Variation No. 2 (a), it is recognised that all projects which arise as a result of the Variation will be subject to their own SEA and AA processes to ensure the protection of European Sites in accordance with the existing CDP.

4.3.1.2 Fragmentation

The existing policies and objectives within the CDP contribute towards the maintenance of physical connectivity between habitats and facilitate the movement of species.

The Variation contributes towards the framework for proper planning and sustainable development of Bearna that exists under the Galway County Development Plan 2015-2021. It comprises various written provisions including those relating to land use zoning. Development proposals under the Bearna Plan, which is provided for by Variation 2 (a) to the Galway CDP, must comply with the measures currently in force through the CDP.

There are no additional sources for habitat fragmentation introduced by the Variation that have not already been considered by the previous AA of the CDP.

4.3.1.3 Disturbance to Key Species

The Variation contributes towards the framework for proper planning and sustainable development of Bearna that exists under the Galway County Development Plan 2015-2021. It comprises various written provisions including those relating to land use zoning. Development proposals under the Bearna Plan, which is provided for by Variation 2 (a) to the Galway CDP, must comply with the measures currently in force through the CDP.

There are no additional sources for disturbance effects introduced in the Variation that have not already been considered by the previous AA of the CDP.

4.3.1.4 Changes of Indicators of Conservation Value

Key indicators of conservation value for relevant European Sites listed in Table 4.3 include sediment characteristics and water quality. Effects to these sites may occur due to the hydrological connection between the sites and the Variation area. Implementation of the Variation could result in alterations to the hydrological regime or physical environment of the sites due to vibrations, alteration of flow regime, and discharges of pollutants to watercourses. However, water quality effects are adequately accounted for by the existing CDP which includes provisions for SUDS and groundwater interactions (Objective WW 7 and WS 1).

The Variation provides for a range of incompatible uses within areas that are at elevated risk of flooding. This introduces the potential sources for effects not previously considered— as a result of heightening flood risk to inappropriate uses. The development of these lands for these inappropriate uses could result in contaminated waters entering the surface water system. This could result in the mobilisation of suspended solids and contaminants such as heavy metals into Galway Bay. These potential effects to water quality would not be captured by the existing SUDS provisions in the CDP.

Therefore, the following mitigation measure (integrated into the Variation as 'Objective CCF6-Inappropriate Development on Flood Zones') was devised to avoid effects where possible, and minimise potential impacts:

Where a development/land use is proposed within any area subject to this objective the development proposal will need to be accompanied by a detailed hydrological assessment and robust SUDS design which demonstrates the capacity to withstand potential flood events to maintain water quality and avoid potential effects to ecological features.

- *Any development proposals should be considered with caution and will be required to comply with The Planning System and Flood Risk Management Guidelines for Planning Authorities/Circular PL2/2014 & the associated Development Management Justification Test.*
- *Climate Change should be duly considered in any development proposal.*
- *Protect the riparian zones of watercourse systems throughout the plan area through a general 10 metre protection buffer from rivers within the plan area as measured from the near river bank, (this distance may be increased and decreased on a site by site basis, as appropriate).*
- *Any development proposals submitted for this site will require a detailed ecological report (s), carried out by suitably qualified personnel for the purposes of informing Appropriate Assessment Screening by Galway County Council, the competent authority (in accordance with Objective DS 6 of the Galway CDP 2015-21).*
- *The relevant lands will be outlined and flagged with a symbol on the land use zoning map and on the GIS system of Galway County Council so that staff and the public are aware of the special conditions/constraints attached.*
- *A briefing will be provided to relevant staff within Galway County Council on the special conditions and constraints on relevant lands.*

Table 4.3 Characterisation of potential effects arising

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Characterization of Potential Effects	Potential Significant Effects	Mitigation Required
000268	Galway Bay Complex SAC ³³	Directly Adjacent	<p>Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Turloughs [3180] <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> [7210] Alkaline fens [7230] Limestone pavements [8240] Lutra lutra (Otter) [1355] <i>Phoca vitulina</i> (Harbour Seal) [1365]</p>	<p>The area to which the Variation relates is directly adjacent to the SAC.</p> <p>Mudflats, sandflats and phytobenthic communities are sensitive to metal contaminants^{34,35}.</p> <p>The Variation provides for a range of incompatible uses within areas that are at elevated risk of flooding. This introduces the potential sources for effects not previously considered – as a result of heightening flood risk to inappropriate uses. The development of these lands for these inappropriate uses could result in contaminated waters entering the surface water system, including during construction. This could result in the mobilisation of suspended solids and contaminants such as heavy metals into Galway Bay. These potential effects to water quality would not be captured by the existing SUDS provisions in the CDP. Mitigation measures are required to avoid contaminants entering the Trusky stream or any surface water body.</p> <p>Objective CCF6 'Inappropriate Development on Flood Zones' was integrated into the Variation to ensure that potential effects to water quality due to flooding are avoided through detailed project design processes including hydrological assessments and SUDS designs which must demonstrate the capacity of the site to maintain the existing condition of water quality.</p> <p>Having taken into account hydrological condition, the SSCOs identify habitat structure and community dynamics to be important features for the site. The QIs are sensitive to land use management activities. However, there are no pathways for effects to these processes. The Variation also includes the following objectives relating to coastal edge development which provide for a general building setback of 30m from the foreshore field boundary line and require the</p>	Yes	Yes

³³ NPWS (2013) Conservation Objectives: Galway Bay Complex SAC 000268. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

³⁴ Williams, T.P., Bubb, J.M. and Lester, J.N., 1994. Metal accumulation within salt marsh environments: a review. Marine pollution bulletin, 28(5), pp.277-290.

³⁵ Fitzgerald et. al, 2003. Copper and lead concentrations in salt marsh plants on the Suir Estuary, Ireland. Environmental Pollution, 123(1), pp.67-74.

Site Code	Site Name	Distance (km)	Qualifying features (Qualifying Interests or Special Conservation Interests)	Characterization of Potential Effects	Potential Significant Effects	Mitigation Required
				integration of ecological considerations into the development of a coastal amenity park: Objective CF 4 - Coastal Amenity Park Objective CF 7 - Coastal Setback Objective LU10-Coastal Edge Zoning		
004031	Inner Galway Bay SPA ³⁶	Directly Adjacent	Great Northern Diver (<i>Gavia immer</i>) [A003] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Grey Heron (<i>Ardea cinerea</i>) [A028] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Wigeon (<i>Anas penelope</i>) [A050] Teal (<i>Anas crecca</i>) [A052] Shoveler (<i>Anas clypeata</i>) [A056] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Lapwing (<i>Vanellus vanellus</i>) [A142] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Sandwich Tern (<i>Sterna sandvicensis</i>) [A191] Common Tern (<i>Sterna hirundo</i>) [A193] Wetland and Waterbirds [A999]	The Variation provides for a range of incompatible uses within areas that are at elevated risk of flooding. There is potential for flood events to cause the mobilisation of suspended solids and metal contaminants etc., including during construction phases of future developments. The targets and attributes of the conservation objectives relate to the connectivity of habitats, distribution of species and the avoidance of disturbance effects. There is a focus on the maintenance of prey biomass and breeding sites to ensure positive outcomes for species population trends. These potential hazardous flood events would not introduce barriers to the free movement of species, removal of habitats or any disturbance effects. Given the dilution effect of the ocean, and the temporary nature of flood events, the effects to the prey species of the SCIs will be minimal. The attributes of the SSCOs relating to wetland habitats focus on habitat area. The potential effects identified will not result in the reduction of habitat. There are no sources for effects to the conservation objectives of the SPA.	No	No

³⁶ NPWS (2013) Conservation Objectives: Inner Galway Bay SPA 004031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Section 5 Mitigation Measures

5.1 Introduction

This section outlines measures that have been incorporated into the Variation in order to mitigate against potential effects to European Sites as identified above.

The Variation and the AA have been prepared in an iterative manner whereby the Draft Plan and AA documents have each informed subsequent versions of the other

In order to demonstrate that there will be no adverse effects from the Variation, mitigation measures have been devised to be incorporated into the text of the Variation as described below.

5.2 Measures incorporated into the text of Variation No. 2 (a)

As outlined in Section 4.3 of this assessment a number of significant effects that could impact on habitats and species have been identified. No zoning or specific projects are provided for by the Variation that would result in direct effects on any European Site. There are two European Sites directly adjacent to the area to which the Variation relates.

Section 3.3.2 of this assessment identified that rezoning of lands within areas that are at elevated risk of flooding could affect the QIs of the Galway Bay Complex SAC due to potential flood events, including during construction phase, causing the introduction of contaminants not controlled by the existing SUDS provisions in the CDP.

The following mitigation measure (integrated into the Variation as 'Objective CCF6- Inappropriate Development on Flood Zones') was devised to avoid effects where possible, and minimise potential impacts:

Where a development/land use is proposed within any area subject to this objective the development proposal will need to be accompanied by a detailed hydrological assessment and robust SUDS design which demonstrates the capacity to withstand potential flood events to maintain water quality and avoid potential effects to ecological features.

- *Any development proposals should be considered with caution and will be required to comply with The Planning System and Flood Risk Management Guidelines for Planning Authorities/Circular PL2/2014 & the associated Development Management Justification Test.*
- *Climate Change should be duly considered in any development proposal.*
- *Protect the riparian zones of watercourse systems throughout the plan area through a general 10 metre protection buffer from rivers within the plan area as measured from the near river bank, (this distance may be increased and decreased on a site by site basis, as appropriate).*
- *Any development proposals submitted for this site will require a detailed ecological report (s), carried out by suitably qualified personnel for the purposes of informing Appropriate Assessment Screening by Galway County Council, the competent authority (in accordance with Objective DS 6 of the Galway CDP 2015-21).*
- *The relevant lands will be outlined and flagged with a symbol on the land use zoning map and on the GIS system of Galway County Council so that staff and the public are aware of the special conditions/constraints attached.*
- *A briefing will be provided to relevant staff within Galway County Council on the special conditions and constraints on relevant lands.*

Development within the Bearna area must comply with the provisions of the existing Galway CDP. The additional measures within the Variation (other than 'Objective CCF6- Inappropriate Development on Flood Zones' that is detailed above) relate to ecological protection include:

- Objective CF4 - Coastal Amenity Park
- Objective CF6 - Jetty/Marina Development
- Objective CF7 - Coastal Setback
- Objective BNH2 - Natural Heritage Areas and Proposed Natural Heritage Areas
- Objective BNH3 - European Environmental Compliance
- Objective RT3 - Public Footpath & Lighting Network
- Objective BNH4 - Local Streams
- Objective CCF1 - Flood Zones and Appropriate Land Uses
- Objective CCF2 - Coastal Flooding
- Objective CCF3 - Structural and Non-Structural Risk Management Measures in Flood Vulnerable Zones
- Objective CCF4 - Water Bodies and Watercourses
- Objective CCF5 - Coastal Protection
- Objective LU9 - Constrained Land Use Zone (CL)
- Objective LU10 - Coastal Edge Zoning
- DM Guideline FL1 - Flood Zones and Appropriate Land Uses
- Objective CCF6 - Inappropriate Development on Flood Zones

Section 6 Conclusion

Stage 1 Screening and Stage 2 AA of Variation No. 2 (a) to the Galway County Development Plan 2015-2021 have been carried out. Implementation of the Variation has the potential to result in effects to the integrity of European Sites, if unmitigated.

The risks to the safeguarding and integrity of the qualifying interests, special conservation interests and conservation objectives of the European Sites have been assessed. The mitigation measures incorporated into the text of the Variation will contribute towards maintaining the ecological integrity of the sites. In addition, all lower level plans and projects arising through the implementation of the Variation will be subject to AA/AA Screening when further details of design and location are known.

In-combination effects from interactions with other plans and projects was considered in the assessment and the mitigation measures incorporated into the Plan as varied allow a conclusion to be arrived at that these will be no significant adverse effects as a result of the implementation of the Variation either alone or in-combination with other plans/projects.

It is determined that, having incorporated the mitigation measures into Variation No. 2 (a), to the Galway County Development Plan 2015-2021 and taking into account the measures already in force through the CDP, Variation 2 (a) is not foreseen to give rise to any significant adverse effects on designated European Sites, alone or in combination with other plans or projects³⁷. This evaluation is made in view of the conservation objectives of the habitats and/or species for which these sites have been designated.

³⁷ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.