Rialtas na hÉireann
Government of Ireland

National Planning Framework

Pre-Consultation Natura Impact Statement (NIS)

Project Ireland 2040

Draft First Revision to the National Planning Framework

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1 INTRODUCTION

This Natura Impact Statement (NIS) has been prepared by RPS on behalf of the Department of the Housing, Local Government and Heritage (DHLGH) to inform the assessment of the First Revision of National Planning Framework (NPF) (hereafter referred to as the "draft first revision to the NPF").

The National Planning Framework (NPF) is a national strategy which provides the framework to guide future development and investment decisions in Ireland to 2040 and beyond. The NPF was published in 2018 and has since significantly influenced both the evolution of planning policy at national, regional and local levels, and development patterns and trends across the country.

The Planning and Development Act 2000 (as amended) under Section 20C, requires the Government to either revise, replace or state why the Government has decided not to revise, every 6 years after the publication of the NPF. The Government decided in June 2023 to undertake a revision to the NPF, in recognition of the need to account for particular changes which have taken place since 2018 which require consideration in the context of potential amendments to the current framework.

The DHLGH is leading the preparation of the draft first revision to the NPF on behalf of Government with input from other departments and agencies which themselves are tasked with developing land-use planning policy. The purpose of this inclusive approach is to allow shared national development goals, including competitiveness and environmental sustainability, to be more broadly considered with the intention of providing greater clarity for all stakeholders.

With reference to the legislative context summarised below, a Stage 1 – Appropriate Assessment (AA) was undertaken with respect to the draft first revision to the NPF and this concluded that the draft first revision to the NPF was:

- Not directly connected with or necessary to the management of a European site; and
- Potential for likely significant effects, either alone or in combination with other plans or projects, on European sites cannot be ruled out.

With reference to Article 6(3) of the EU Habitats Directive, as transposed into Irish law, DHLGH made a screening determination that there was potential for likely significant effects (LSE) and Stage 2 of the AA process would be required to inform the AA determination on the draft first revision to the NPF.

This NIS assesses, in view of best scientific knowledge and applying the precautionary principle, whether the draft first revision to the NPF, either individually or in combination with other plans or projects, may adversely affect the integrity of any European site(s). The assessment has been carried out in accordance with the legal context outlined below.

1.1 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as 'The Habitats Directive', provides legal protection for habitats and species of European importance. Articles 3 to 9 of the Directive provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of a European Union (EU)-wide network of sites known as Natura 2000 (hereafter referred to as 'European sites'). European sites comprise:

- Special Areas of Conservation (SAC) designated for habitats, plants, and non-bird species, under the Habitats Directive (92/43/EEC); and
- Special Protection Areas (SPA) designated for bird species and their habitats, under the Birds Directive (79/409/ECC as codified by Directive 2009/147/EC).

Article 6 of the Habitats Directive plays a crucial role in the management of the sites that make up the Natura 2000 network[1]. Articles 6(1) and 6(2) set out the need to identify conservation objectives and prevent deterioration of the habitats and species for which the sites have been designated. 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 (Annex 1.1).

[1] Managing Natura 2000 sites. The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC" EC 2018.

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

> *Any plan or project not directly connected with or necessary to the management of the [European] 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.*

Article 6(4) states:

> *If, in spite of a negative assessment of the implications for the [European] 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.*

The Habitats Directive has been transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). In the context of the draft first revision to the NPF, the governing legislation is principally the European Communities (Birds and Natural Habitats) Regulations and specifically Article 27 which sets out the duties of public authorities relating to nature conservation; and Article 42 which addresses AA.

1.2 Purpose of the Appropriate Assessment Process

The overall purpose of the AA process is to ensure that the draft first revision to the NPF does not result in any adverse effects on the integrity of any European sites in view of its conservation objectives. This NIS has been prepared to inform the AA process having regard to the legislative requirements of EU and national law as outlined previously. The responsibility for carrying out the AA lies with DHLGH, and this NIS will inform the AA determination made by the DHLGH at the time of adoption of the draft first revision to the NPF.

1.3 Stages of Appropriate Assessment

Stage 1: Screening / Test of Significance: This process identifies whether the proposed plan / project is directly connected to or necessary for the management of a European site(s) and identifies whether the plan / project is likely to have significant impacts on a European site(s) either alone or in combination with other plans / projects. The output from this stage is a determination of not significant, significant, potentially significant, or uncertain effects. The latter three determinations will cause the plan / project to be brought forward to Stage 2.

Stage 2: Appropriate Assessment: This stage considers the impact of the proposed development on the integrity of a European site(s), either alone or in combination with other plans / projects, with respect to: (i) the site's conservation objectives; and (ii) the site's structure, function and its overall integrity. The output from this stage is an NIS. This document must include sufficient information for the competent authority to carry out the appropriate assessment. If the assessment is negative, i.e., adverse effects on the integrity of a site cannot be excluded despite incorporation of measures to avoid or reduce the adverse effects, then the process must consider alternatives (Stage 3).

Stage 3: Assessment of Alternatives: This process examines alternative ways of achieving the objectives of the plan / project that avoid adverse impacts on the integrity of a European site. This assessment may be carried out concurrently with Stage 2 in order to find the most appropriate solution. If no alternatives exist or all alternatives would result in negative impacts to the integrity of the European sites, then the process either moves to Stage 4 or the plan / project is abandoned.

Stage 4: Assessment where Adverse Impacts Remain: This stage is undertaken when it has been determined that a plan / project will have adverse effects on the integrity of a European Site, but that no alternatives exist. It includes the identification of compensatory measures where, in the context of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

1.4 Overlap with the Strategic Environmental Assessment of the Draft Plan

A Strategic Environmental Assessment (SEA) of the draft first revision to the NPF is being carried out concurrently with the preparation of the NIS. The purpose of the SEA is to evaluate at an early stage, the range of environmental consequences that may occur as a result of implementing the draft first revision to the NPF and to give interested parties an opportunity to comment on the perceived or actual environmental impacts of the draft first revision to the NPF. There is a degree of overlap between the requirements of the SEA and AA and, in accordance with best practice, an integrated process of data sharing has been carried out, such as sharing of baseline data and mapping of European sites, sharing of potential ecological effects of the draft Plan on European sites and clarification on more technical aspects of the draft first revision to the NPF. These processes together have informed and shaped the development of the draft first revision to the NPF.

It is also noted that there are issues relevant to the Habitats Directive that are not strictly related to AA, including Article 10 and 12 of the Directive. In these cases, the issues have been brought forward to the biodiversity, flora and fauna section of the SEA and have been addressed in that context as part of the wider environmental assessments informing the draft first revision to the NPF.

1.5 Consultation

To date, consultation has been driven by the mandatory requirements under the SEA Directive, as transposed by Irish law to consult in relation to SEA screening and scoping, however, it is noted that from the outset, the opportunity has been taken to consult with stakeholders in relation to the AA processes as it relates to the draft first revision to the NPF.

The SEA Scoping Report was provided to the defined statutory bodies for SEA in Ireland and other stakeholders, and the scoping and statutory consultation for the draft first revision to the NPF was completed in November 2023. This included reference to the parallel and integrated AA process. In recognition of the potential for transboundary effects, contact was also initiated at scoping stage with the relevant representatives in Northern Ireland.

Scoping submissions contained recommendations that biodiversity considerations should be integrated into the draft first revision to the NPF as an underlying objective to ensure its integration into subsequent planning levels and adequate considerations should be given to the implications of Nature Restoration Law, actions in the fourth Biodiversity Action Plan as well as relevant transboundary impacts. Although no issues or direct responses were received regarding AA during the scoping consultation, these recommendations have been taken into account in preparing the NIS.

2 CONTENTS AND MAIN OBJECTIVES OF DRAFT FIRST REVISION OF NPF

2.1 Background Context

In 2018, the National Planning Framework (NPF) replaced the National Spatial Strategy as the overall spatial planning and development strategy for Ireland. The NPF, together with the National Development Plan, combine to form Project Ireland 2040, the overarching policy and planning framework for the social, economic and cultural development of Ireland. Since the publication of the NPF in 2018 there have been a number of significant developments in relation to planning policy, guidance and legislation, as well as governance and institutional change.

In addition to the statutory mandate to update the NPF, there is also a Programme for Government (PfG) commitment to update the NPF in 2024. To achieve this, Government published A Road Map for the First Revision of the National Planning Framework in June 2023[2], setting out what had changed, the public engagement and environmental assessment to be undertaken to support the revision and the steps needed to inform the scope of the first revision. Two key elements feeding into the revision are the new CSO 2022 census data released and the outputs from an Expert Group convened by the Minister of HLGH to identify matters to be considered in the first revision to the NPF. This in turn fed into an Issues Paper prepared to inform discussion with stakeholders.

A programme for delivering the first revision to the NPF was identified with completion anticipated by the end of May 2024. However, in March 2024, the Government agreed to the deferral of the approval of a revised NPF until September 2024 under section 20 (c) 5(b) of the Planning and Development Act 2000, as amended[3].

2.1.1 Census 2022

The results of Census 2022 indicated that the population increased by 8.1% compared with the 2016 census and there were 5,149,139 people in the State on 3rd April 2022. This is the first time that a census has recorded a population of more than five million people since 1851. The results indicated that the national population growth was broadly in line with the overall NPF population projections as the first NPF projected a population of just over 5.1m people in Ireland in 2022 and the Census indicated 5.15m people.

2.1.2 Expert Group Report

In 2023, an Expert Group was convened by the Minister for Housing, to provide a high-level overview of the NPF, published in 2018, and to identify matters to be considered in the first revision to the NPF. The Report[4] examined the overall approach of the NPF in the face of the evolving trends which had developed over the intervening five years since the NPF was launched in 2018. Key drivers of change included climate transition, regional development, demographic change, and digitalisation as well as immigration due to external factors such as the war in Ukraine and increased number of people seeking international protection under EU International Protection Directive (2011/95/EU) and other geo-political activity.

In undertaking this review, the Expert Group concluded that the original NPF had remained a strong policy framework with relevance in the face of key drivers of change. However, it acknowledged three broad areas where further strengthening would be needed, notably:

- Targets should be critically reviewed, and consideration given to making them more ambitious and more clearly defined;
- The bodies involved and their roles in the implementation of the NPF should be clarified and strengthened in the first revision (particularly in relation to the Metropolitan Area Strategic Plans) and

[2] www.gov.ie/pdf/

[3] DHLGH, 2024. Statement from Government - 5 March 2024. Available at: https://www.gov.ie/en/press-release/b7288-statement-from-department-of-housing-local-government-and-heritage/

[4] Report of Expert Group for the First Revision of the National Planning Framework

mechanisms put in place for more detailed measurement and monitoring of the progress on implementation of the NPF First Revision; and

- There should be greater coordination at whole-of-government level across all infrastructure projects (including the infrastructure projects supported by the National Development Plan (NDP)) and new efforts made to generate broader support for national spatial planning across all of society.

The Expert Group Report proposed 13 recommendations addressing the broad areas for strengthening the plan. These recommendations are included in **Table 2-1**.

Table 2-1: Recommendations from Expert Group Review of Effectiveness of NPF.

Ref.	Recommendations
1	The revision to the NPF should explore ways of making the five Metropolitan Area Strategic Plans more effective. This is key to ensuring that all Irish city-regions live up to their potential as European cities of scale.
2	The revision to the NPF should critically review the current targets and consider stronger and more ambitious targets for compact growth.
3	The revision to the NPF should consider the inherent unsustainability of scattered, uncoordinated patterns of new houses in the countryside and explore how to develop a new national strategic objective to direct new rural housing towards rural towns and villages and to restrict new urban-generated rural housing elsewhere.
4	The revision to the NPF should seek to name the principles for identifying priority locations for the deployment of infrastructure at a strategic scale across the country.
5	The revision to the NPF should explore ways of recognising the specific planning challenges that can occur within natural, geographical or transboundary sub-regions and of embedding this broader range of spatial entities within the scope of spatial planning.
6	The revision to the NPF should consider ways in which the concept of Spatial Equity proofing could be brought forward for strategic planning in Ireland.
7	The revision to the NPF should consider principles that would strengthen the link between the locations of new workplaces with its compact growth objectives
8	The revision to the NPF should consider a systematic evaluation of the National Strategic Outcomes and the National Policy Objectives to ensure that outcomes and objectives are clear and support consistent implementation.
9	The revision to the NPF should consider the establishment of a dedicated unit which would monitor implementation of the NPF annually. The unit should be mandated to require all relevant Departments and relevant organisations (e.g., Local Authorities and Uisce Éireann) to report progress and report publicly on their performance against clear metrics, both investment (including the NDP) and impact metrics. The monitoring unit should also identify challenges in the implementation process.
10	The revision to the NPF should consider clarification of the roles of all key National, Regional and Local Bodies to support the implementation of the NPF and to ensure alignment between the NPF and National, Regional and Local Plans, including County Development Plans
11	The revision to the NPF should consider the benefits of establishing a cross-departmental implementation group at the centre of government which would systematically prioritise and co-ordinate decisions in relation to all key infrastructure decisions, including the NDP projects and programmes.
12	The revision to the NPF should consider whether a Spatial Planning Council, with a membership from relevant professions and academic institutions, should be established to bring information to civic society that would broaden our understanding of the societal benefits of better national spatial planning in Ireland. Consideration should also be given to whether a consultative forum could contribute to this process by starting a national conversation on national spatial planning.
13	The revision to the NPF should consider how the very strong enthusiasm for planning and sustainable development that is found in local community groups, businesses, civil society, and development bodies across the country might be supported and harnessed. This would help and to foster inclusive dialogue about strategic planning initiatives at all spatial scales.

2.2 Issues Paper

Published in October 2023, the *Issues Paper*, having had regard to the recommendations of the Expert Group and the evidence base provided by the Census 2022 reporting identified the strategic policy issues for the draft first revision to the NPF under the following headings:

- **Climate Transition and our Environment -** Since the publication of the NPF in 2018, the acceleration of the climate crisis has prompted an urgent response in the form of coordinated and targeted action. The revision to the NPF will consider issues of housing, employment, health, education facilities and amenities required by the growing population, along with the infrastructure required to support development in order to ensure sustainable development for our planet and future generations.
- **Population and Demographics -** The Economic and Social Research Institute (ESRI) work undertaken for the NPF in 2018 indicated that Ireland's population will grow by around one million additional people, to almost 5.7 million people by 2040. The current NPF involves planning for growth in each of Ireland's three regions as follows: Eastern and Midland Region an additional 490,000 - 540,000 people; Northern and Western Region an additional 160,000 - 180,000 people; and Southern Region an additional 340,000 - 380,000 people. The ESRI are currently undertaking demographic and econometric modelling work, taking account of the results of the 2022 Census, to update previous research on structural housing demand and produce an updated range of scenarios for long-run new household demand in Ireland.
- **Regional Growth and Ambition -** The NPF in 2018 recognised that continued investment in Dublin and the east would be critical to support the future growth of Dublin as an international city of scale in the national interest. At the same time the need for regional balance was also recognised, alongside compact growth objectives in five key cities. Consideration will be given to the targets for the regions and the cities as part of the revision, accounting for any regional development challenges and the opportunities related to the attractiveness and strengths of Ireland's three regions – for example housing, infrastructure, foreign direct investment (attraction) and enterprise development.
- **Compact Growth –** The Report of the Expert Group included a series of recommendations in relation to compact growth, including a review of the current targets and consideration for more ambitious targets given the overarching climate objectives. The draft first revision to the NPF will consider the acceptance of compact growth among the public, targets for growth and monitoring of targets going forward.
- **Digitalisation -** Small and medium-sized enterprises (SMEs) constitute the vast majority of businesses in Ireland. Planning policy which supports this sector to meet the challenges of digitalisation can make a significant contribution to the achievement of balanced regional development by enabling firms to drive productivity and innovation, open doors to new markets, and better understand and respond to their customers' needs. A proactive plan-led approach can help tackle regional disparities and prevent the creation of a two-speed economy characterised by pockets of digital exclusion and inequality of opportunity.
- **Investment and Prioritisation -** In addressing a number of the recommendations of the Expert Review Group, the draft first revision to the NPF will explore ways of strengthening the aligning of NPF/NDP interaction in the area of: Project Selection and Prioritisation; Institutional Arrangements – Roles and Responsibilities; Monitoring and Reporting; and Better Data.

2.3 Main Objectives of the Draft First Revision of NPF

Fundamentally, the proposed first revision to the NPF is building on the vision commenced in 2018, holding firm on the broad strategy of balanced regional development, clustered and compact growth, and improved connectivity. However, it is also seeking to update the Framework based on the changes to social, economic and legislative drivers over the last 5-years and adapt to existing and new pressures relating to housing, provision of services, biodiversity loss and climate change.

The updated vision will be achieved by:

- Continuing to develop a region-focused strategy for managing growth;
- Linking this to the established Project Ireland 2040 National Development Plan;
- Using the range of public and private lands available for certain strategic purposes;

- Supporting this with strengthened, more environmentally focused planning at local level; and
- Backing the framework up in law, with oversight by the independent Office of the Planning Regulator which has been providing oversight since it was established in 2019.

2.4 Proposed Revisions to the NPF

The key areas of change to the NPF are set out below.

Demographic Change: Since the publication of the NPF and the subsequent NPF Roadmap, the results of Census 2022 have been published and the ESRI has been commissioned to update the demographic and econometric projections to inform the NPF Revision. The population of Ireland was 5.15m at the most recent Census in 2022 (CSO), an increase of around 0.4m people over the previous, 2016 Census. The ESRI draft projection is that the population will increase to around 5.7m by 2030 and 6.1m by 2040. The core objectives of balanced regional development and compact growth are proposed to be maintained, including the objective of delivering 50% of future population growth in the Northern and Western and Southern Regions combined, to act as a counterbalance to the Eastern and Midland Region.

The proposed Revision is to the NPF targets, on a largely pro-rata basis throughout Ireland, additional projected population growth to 2030, in line with the current NPF strategy approach. This will effectively mean more targeted growth everywhere to 2030, including for the four Regional Cities as key elements of strategy.

New Sustainable Communities: Planned growth in the metropolitan area would be targeted towards the delivery of new sustainable communities at brownfield and greenfield locations in the principal city and suburbs areas and in the wider metropolitan areas focused on opportunities arising from existing and planned major public transport investment, along planned high capacity public transport corridors and in accordance with the principles of Transport Orientated Development.

Balanced Regional Development: The NPF in 2018 recognised that continued investment in Dublin and the east is critical to support the future growth of Dublin as an international city of scale in the national interest, but that this needs to be supported by a more balanced distribution of growth across all of Ireland's regions. Census 2016 indicated a 70/30 split in population growth between the EMRA area and the rest of the country whereas Census 2022 shows population growth split of approximately 55/45.

The proposed Revision to the NPF will maintain the objective of a 50:50 split of growth between the EMRA and the Eastern and Midland Regional Assembly (EMRA) and the Northern & Western Regional Assembly (NWRA)/ Southern Regional Assembly (SRA) Regions.

City-Focused Growth: The city-focused growth strategy in the NPF is based on growth targets for the cities of Cork, Limerick, Galway and Waterford, relative to their historic growth rates, with each projected to grow by at least 50% by 2040. The proportion of national population growth achieved in the five cities was 124,543 persons or just 32% of overall growth. Census 2022 shows a very mixed performance for the regional cities—only Waterford (+12%) and Limerick (+8%) had a growth rate above the national average of 8.1%. Both Galway and Cork grew at a rate below the national average. To achieve the ambitious NPF growth targets to 2040, each of these cities would need to see growth rates in excess of 10% each intercensal period and this remains a key element of the NPF strategy approach.

The proposed Revision to the NPF will maintain the targets for the cities; with the focus being on the need for enhanced mechanisms to support delivery in the revised strategy.

Compact Growth: The compact growth policy approach of the NPF addresses the need for a more sustainable form of development in Ireland's cities and towns in response to an identified need to counter the trend of urban sprawl, to support the targeted delivery of infrastructure services, to promote cities and towns to be self-sustaining and viable places to live and work. NPF National Policy Objectives 8 and 9 established a target to deliver at least half (50%) of all new homes that are targeted in the five Cities and suburbs and at least 30% of all new homes that are targeted in settlements other than the five Cities and their suburbs, within their existing built-up footprints. Examining data for housing completions in 2022, the average rate across all counties was c.60% of development taking place within settlement boundaries.

The proposed Revision to the NPF will not include an increase in compact growth targets. However, greater clarity is provided in relation to the definition of 'built up area' and there is commitment to a monitoring system that will track implementation of the targets in a consistent way for all major settlements and this will facilitate potential consideration of amended targets in future revisions.

Climate Transition and Environment: There has been significant development in national climate policy since the adoption of the NPF and this is reflected in new and enhanced policy approaches proposed as part of the emerging approach to the Revision.

The proposed Revision to the NPF will include new policies in relation to renewable energy development, including the allocation of regional renewable electricity capacity allocations in order to facilitate the accelerated roll-out and delivery of renewable electricity infrastructure for on-shore wind and solar generation development and to support the achievement of the national targets set out in the Climate Action Plan 2024. The proposed Revision also includes policies to ensure alignment with changes in biodiversity legislation that will contribute towards tackling the issue of biodiversity loss. The proposed Revision to the NPF will continue to promote the need to respond to known flood risks in plan-making, and highlights potential for nature-based solutions to assist with drainage and reduce risks of flooding. The likelihood of risks arising from rising sea levels in terms of coastal areas is also reflected as is the value of green and blue infrastructure.

Transport: The proposed Revision to the NPF reflects updated national transport policy with a particular focus on the principles of 'avoid, shift and improve'. Specific projects and studies are referenced including the *All-Island Strategic Rail Review* (2023) and key road projects that are essential for improving regional and intra urban connectivity, in particular a number of important upgrades in the north-west border area (N2/A5). Emerging national policy developments relating to Sustainable Mobility Policy and Transport Orientated Development are overtly supported. The important role of cycling is also highlighted, with particular emphasis on the implementation of the *National Cycle Network Plan* (2024).

Working with our Neighbours: The 2018 NPF reflects on the ongoing cooperation and collaboration that exists between Ireland and Northern Ireland. The United Kingdom has since left the European Union.

The proposed Revision to the NPF sets out objectives for strategic cooperation and investment for mutual benefit on the island of Ireland. These include objectives for transport connectivity; health, education, investment in research and innovation as well as reference to the PEACEPLUS programme, which is a major driver for cross-border investment and cooperation over the next number of years.

Investment and Funding: The proposed Revision to the NPF identifies key strategic investments needed under each of the 10 National Strategic Outcomes to support the NPF strategy.

Implementation: Institutions and Delivery: The proposed Revision to the NPF signals a need to consider institutional and governance reforms in order to support more balanced regional and city-focused growth and to harness capacities at regional and local levels to deliver on regional and local objectives e.g., an enhanced role for the Land Development Agency (LDA) in order to support the development of new sustainable communities.

3 ASSESSMENT METHODOLOGY

3.1 Guidance Documents on AA

The AA requirements of Article 6 of the Habitats Directive follow a sequential approach as outlined in the following legislation, guidance documents and Departmental Circulars, namely:

European and National Legislation

- Council Directive 2009/147/EC on the conservation of wild birds, codified version (also known as the 'Birds Directive');
- Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (also known as the 'Habitats Directive');
- European Communities (Birds and Natural Habitats) Regulations 2011 as amended; and
- Planning and Development Act 2000, as amended.

Guidance

- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. DEHLG (2009, revised 10/02/10);
- 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 (2021);
- Communication from the Commission on the Precautionary Principle. European Commission (2000);
- EC study on evaluating and improving permitting procedures related to Natura 2000 requirements under Article 6.3 of the Habitats Directive 92/43/EEC (Ecosystems Ltd. Oct. 2013);
- 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 European Commission (2007/2012);
- Guidance document on the implementation of the Birds and Habitats Directive in estuaries and coastal zones with particular attention to port development and dredging, (EC, 2011);
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC' (EC, Feb. 2007);
- Interpretation Manual of European Union Habitats, Version EUR 28, (EC, Apr. 2013); and
- Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC European Commission (2018).

Departmental/NPWS Circulars

- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10. (DEHLG, 2010);
- Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments. Circular L8/08;
- Guidance on Compliance with Regulation 23 of the Habitats Directive. Circular Letter NPWS 2/07;
- Compliance Conditions in respect of Developments requiring (1) Environmental Impact Assessment (EIA); or (2) having potential impacts on Natura 2000 sites. Circular Letter PD 2/07 and NPWS 1/07; and
- Appropriate Assessment of Land Use Plans. Circular Letter SEA 1/08 & NPWS 1/08.

3.2 Guiding Principles on Case Law

Over time legal interpretation has been sought on the practical application of the legislation concerning AA as some terminology has been found to be unclear. European and national case law has clarified a number of issues and some aspects of the published guidance documents have been superseded by case law. Case law has been considered in the preparation of the NIS of the draft first revision of NPF.

3.3 Information Sources Consulted

The following general sources of information have been consulted for background environmental information.

- Department of Housing, Planning and Local Government – online land use mapping https://viewer.myplan.ie/;
- CORINE (Co-Ordinated Information on the Environment) data series was established by the European Community (EC) www.epa.ie/soilandbiodiversity/soils/land/corine/;
- Environmental Protection Agency (EPA) – EPA maps www.epa.ie;
- Climate Ireland - Climate Status Tool https://www.climateireland.ie/#!/
- Forest Cover Datasets https://www.agriculture.gov.ie/forestservice;
- GeoHive online mapping http://map.geohive.ie/mapviewer.html;
- Geological Survey of Ireland (GSI) – geology, soils, hydrogeology and geothermal www.gsi.ie;
- Information on Water Framework Directive and River Basin Districts – https://www.catchments.ie/;
- Information provided by DECC on the draft Plan;
- Ireland's Article 12 submission to the EU Commission on the *Status and Trends of Bird Species (2008-2012)*;
- Ireland's Article 17 Reports 2019, National Parks and Wildlife Service[5];
- Irelands National Biodiversity Plan 2017-2021 (DCHG, 2017);
- Irelands Fourth National Biodiversity Plan 2023-2027 (DCHG, 2022)[6];
- National Parks and Wildlife Service – online European site information www.npws.ie;
- Northern Ireland Environment Agency – online European site information www.daera-ni.gov.uk;
- Ordnance Survey of Ireland – online mapping and aerial photography www.osi.ie; and
- *Prioritised Action Framework (PAF) for Natura 2000* in Ireland 2014-2020 and *draft Prioritised Action Framework (PAF) for Natura 2000* in Ireland 2021-2027 https://www.npws.ie/news/prioritised-action-framework;
- EU Biodiversity Strategy (2020)[7];
- EPA (May 2024) *Update on Pressures Impacting on Water Quality*[8]*;* and
- EPA (June 2024) *Water Quality in 2023 – An Indicators Report*[9].

[5] NPWS (2019). Article 17 reports – Vol 1 - 3. Available at: https://www.npws.ie/publications/article-17-reports/article-17-reports-2019 Accessed: June 2024.

[6] Available online at: https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf. Accessed June 2024.

[7] https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

[8] EPA publishes report: Update on pressures impacting on water quality - Catchments.ie - Catchments.ie

[9] EPA-Water-Quality-Indicator-Report-2023-web-11June2024.pdf

3.4 Impact Prediction

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (EC, 2021). When describing changes/activities and impacts on ecosystem structure and function, the types of impacts that are commonly presented and which must be considered during all phases (preparation, construction, operation and, where relevant, decommissioning or reconditioning) include:

- Direct and indirect effects;
- Temporary or permanent effects;
- Short and long-term effects; and
- Cumulative effects.

A "source-pathway-receptor" approach has been applied for this assessment. The source relates to the actions outlined in the draft first revision of NPF which have the potential to adversely affect European sites, e.g., infrastructure development and alternative resource viability. The pathways relate to how implementation of the draft first revision of NPF can potentially impact European sites, e.g., habitat loss, habitat fragmentation, habitat deterioration, disturbance to species and impacts/effects to water quality. The receptor is the Natura 2000 Network, potentially including those transboundary sites for which there is a pathway of connectivity as a result of the implementation of the draft first revision of NPF.

3.5 Aspects of Draft First Revision of NPF to be Assessed

Aspects of the draft first revision of NPF actions and their implementation for the general environment and sectoral activity were considered in this assessment. **Table 3-1** sets out the aspects of the draft first revision of NPF and identifies those to be assessed as part of this NIS and the rationale for their assessment.

Table 3-1: Elements of Draft First Revision of NPF Assessed in the NIS.

Chapter No. / Section	Assessed
1- The Vision	No. Factual information which sets out purpose etc.
2- A New Way Forward	Yes. Sets out National Planning Objectives (NPOs) for population growth and employment. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
3- Effective Regional Development	Yes. Sets out the key future policy priorities for the three regions and key future enablers for the five cities. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
4- Making Stronger Urban Places	Yes. Sets out NPOs for urban planning. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
5- Planning for Diverse and Rural Places	Yes. Sets out NPOs for rural areas. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
6- People, Homes and Community	Yes. Sets out NPOs that influence people's quality of life via housing targets, health facilities etc. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
7- Realising our Island and Marine Potential	Yes. Sets out NPOs for integrated land and maritime planning. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
8- Working with our Neighbours	Yes. Sets out NPOs for engagement with EU, Northern Ireland, England, Scotland and Wales. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
9- Climate Transition and Our Environment	Yes. Sets out NPOs for climate action and planning. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.
10- Implementing the National Planning Framework	Yes. Sets out NPOs for the implementation of the revised NPF. Assessed in line with the key changes in biodiversity legislation, policy, guidance, and evidence base.

4 OVERVIEW OF THE RECEIVING ENVIRONMENT

4.1 Identification of European Sites and Zone of Influence

In the Republic of Ireland, sites within the Natura 2000 Network are referred to as European sites and comprise cSAC, SAC, pSPA and SPA. SACs (and cSAC) are concerned with the protection of specific Qualifying interests (QI) and SPAs (and pSPA) are concerned with the protection of specific Special Conservation Interests (SCI). With respect to this assessment cSACs and pSPAs are treated as if SACs or SPAs for assessment purposes.

In identifying the Zone of Influence for the NIS of the draft first revision of NPF, a number of considerations were taken into account, notably the national and strategic nature of the draft first revision of NPF, the relationship of listed QI and SCI for Ireland and European sites understood to have actual or potential connectivity. The AA Screening Report considered that since the draft first revision of NPF was a national plan that all the European sites within the Republic of Ireland and relevant sites and receptors in Northern Ireland were considered. For consistency, the Zone of Influence for this NIS adopts the same approach.

In the Republic of Ireland, there are 441 SACs, of which 16 are designated for 'priority habitats', owing to their ecological vulnerability. There are 58 SACs designated in Northern Ireland.

Through the Birds Directive, SPAs are designated for the protection of endangered species of wild birds including listed rare and vulnerable species, regularly occurring migratory species as well as wetland habitats that support such species. Currently there are 167[10] SPA designated within the Republic of Ireland and 16 SPAs designated in Northern Ireland.

Table 4-1 provides a summary breakdown of the European sites in the Republic of Ireland. The SAC and SPA designated sites within the Zone of Influence of the draft first revision of NPF are listed in **Appendix A** to **Appendix D**. **Figure 4.1** illustrates the distribution of the SAC and SPA designations in Ireland and Northern Ireland. The draft first revision of NPF study area encompasses the island of Ireland based on the lack of location specific information provided with the draft first revision of NPF.

It is acknowledged that the number of European sites designated, and their boundaries, are subject to change over time and must therefore be verified on an ongoing basis.

Table 4-1: European Sites in Ireland and Northern Ireland.

	Republic of Ireland	Northern Ireland
Special Areas of Conservation (SAC)	**441**	**58**
Special Protection Area (SPA)	**167**	**16**

Data Source: *NPWS Spatial Database (January 2024); JNCC Database (October 2023).*

[10] Where differences exist in the stated number of European sites (SACs and SPAs), e.g., between the 2019 NPWS Article 17 Report and the NPWS spatial dataset, the highest number of sites/features are used under the precautionary principle.

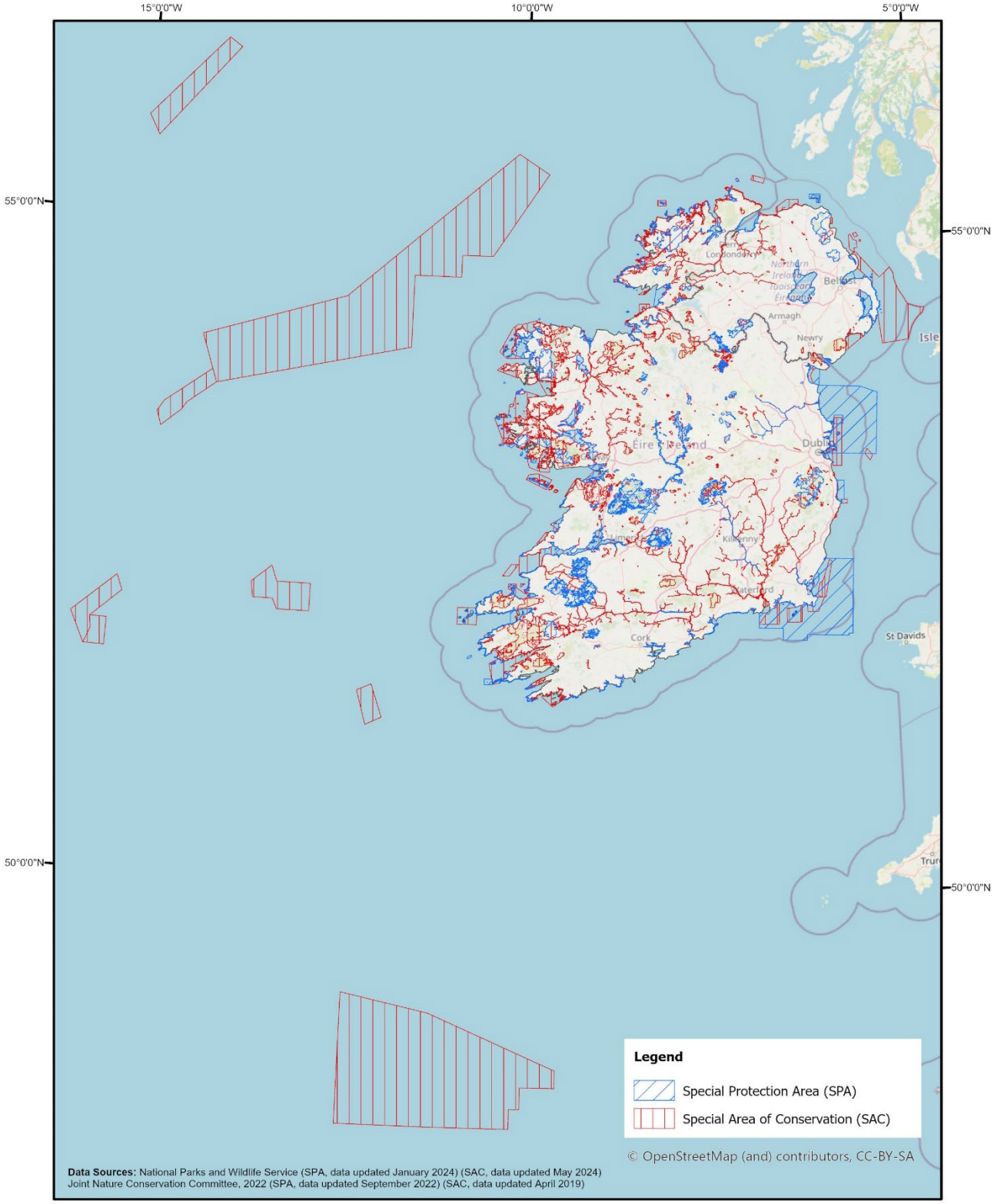

Figure 4.1:

Designated Sites in the Zone of Influence

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Project: National Planning Framework Revision 2024

Client: Department of Housing, Local Government and Heritage

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Figure 4.1: Designated Sites in the Zone of Influence

4.2 Transboundary Considerations

There is potential for the zone of influence of the draft first revision of NPF to encompass transboundary site(s) within Northern Ireland. No specific locations are proposed therefore it is not practical for this report to identify transboundary sites in any significant detail. AA on lower tier plans and indeed sectoral plans will be in a position to consider transboundary issues in more detail where geographic context can be added.

4.3 Conservation Objectives

Site-specific conservation objectives (SSCO) aim to define favourable conservation condition for a particular habitat and/or species at a European site. Maintaining habitats and species in a favourable conservation condition then contributes to the wider objective to maintain those most vulnerable habitats and species at favourable status throughout their range within the Natura 2000 network.

At an individual site level, SSCOs specify whether the objective is to maintain or to restore favourable conservation condition of the habitat and/or species, and they set out attributes and targets that define the objectives. It is the aim of the DHLGH[11] to produce SSCO for all European sites in due course[12]. QI and SCI are annexed habitats and annexed species of community interest for which an SAC or SPA has been designated. The SSCO for European sites are set out to ensure that the QIs/ SCIs of that site are maintained or restored to a favourable conservation condition / conservation status.

A full listing of the COs and QIs/ SCIs that each European site is designated for, as well as the attributes and targets to maintain or restore the QIs/ SCIs to a favourable conservation condition are available from the NPWS website www.npws.ie.

It is noted that the existing conservation condition of some habitats and species is unfavourable at present for various reasons, including because of exceedance in environmental quality parameters. This is discussed further in the next section.

4.4 Conservation Status of EU Protected Habitats and Species

In 2007, 2013 and again in 2019 the National Parks and Wildlife Service (NPWS) published a report detailing the conservation status in Ireland of habitats and species listed in the EU Habitats Directive (92/43/EEC), often referred to as “the Article 17 Report”. Under the Habitats Directive, each Member State is obliged to undertake surveillance of the conservation status of the natural habitats and species in the Annexes and under Article 17, to report to the European Commission every six years on their status and on the implementation of the measures taken under the Directive. Appendix F sets out a summary of the conservation status of each habitat and species from 2007 to 2019.

For the 2019 submission, Ireland’s Article 17 Report recorded 15% of habitats as “favourable” and 85% of habitats in “unfavourable” status (46% as “inadequate” and 39% as “bad”). Among the key findings were:

- Many Irish habitats are in unfavourable status. Many are still declining albeit with some positive actions underway while almost half are demonstrating ongoing declines;
- The main pressures to habitats are from grazing; pollution of watercourses; drainage / cutting of peatlands and wetlands; invasive species; recreation; [urbanisation; fertilizer application; and road building among others];
- Some of the marine habitats are considered to be improving, and to have better prospects, due in part to implementation of other EU environmental directives;
- The status of raised bogs in Ireland is “*bad*”; and the trend is for an ongoing decline as restoration is necessary to cause improvement, notwithstanding the cessation of cutting on SAC bogs. However, The National Raised Bog Special Areas of Conservation Management Plan 2017- 2022 sets out a

[11] Note: As of September 2020, a number of department names changes and in some cases functions have moved. The National Parks and Wildlife Service (NPWS) was previously part of the Department of Culture, Heritage and the Gaeltacht (DCHG) and is now part of the Department of Housing, Local Government and Heritage (DHLGH).

[12] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/

commitment for protection and restoration activities within all raised bog SACs while Bord na Móna will cease the supply and use of peat by 2020;

- Grasslands, such as orchid-rich grasslands and hay meadows, have undergone significant losses over the last decade, with 31% and 28% of the area monitored reported as being lost. Some improvements have been associated with the Burren Programme and Aran LIFE;
- Blanket bog is also assessed as "*bad*"; the report notes that, as one of the main impacts on this habitat is grazing, an improving trend might be expected due to the implementation of Commonage Framework Plans. However, this improvement appears to be offset and even exceeded by on-going deleterious effects such as peat cutting, erosion, drainage and burning;
- Although some of our woodlands are rated as "*bad*" because they are patchy and fragmented, improvements have been noted due to afforestation, the planting of native species, the removal of alien species and control of overgrazing. Improvements noted from 2013 are now recorded as stable in 2019;
- Many freshwater habitats are considered unfavourable due to nutrient loading within the catchment, however the Cycle 2 River Basin Management Plan [RBMP] (2018-2021) will aim to ensure improved targeting of mitigation measures (Note: the Cycle 3 RBMP is currently in preparation and will cover the period 2021-2027); and
- Losses of limestone pavement has been recorded outside the SAC network, however the BurrenLIFE and Burren Farming for Conservation Programme have significantly improved the quality of pavement and its associated habitats.

From the 2019 report, 57% of species were assessed as "favourable", 30% as "unfavourable" (15% as "inadequate" and 15% as "bad") and 13% as "unknown" or considered to be vagrant species. Among the key findings are:

- Otter, pine marten and many bat species have also been assessed as "favourable" with evidence of an expanding range;
- The Natterjack toad is not exhibiting adequate positive results but has gone from ''bad'' in 2013 to stable in 2019;
- Salmon (*Salmo salar*) is assessed as "inadequate" and the Killarney shad (*Alosa killarnensis*) is still assessed as "favourable", but some other fish remain at "bad" status; and
- Freshwater pearl mussel is "bad" and declining.

Similarly, the requirements for reporting under Article 12 of the Birds Directive (2009/147/EC) are every 6 years. Ireland's Article 12 submission to the EU Commission on the *Status and trends of bird species (2008-2012)*[13] covers 196 species which includes breeding, wintering and passage species. The report details that some species have had significant increases in population over the long term, including raven (*Corvus corax*), collared dove (*Streptopelia decaocto*), buzzard (*Buteo buteo*) and blackcap (*Sylvia atricapilla*). However, other species have undergone significant declines in their long-term breeding population trend: corncrake (*Crex crex*) (85%), curlew (*Numenius arquata*) (98%), lapwing (*Vanellus vanellus*) (88%) and redshank (*Tringa totanus*) (88%). The hen harrier (*Circus cyaneus*) shows a long-term population trend decrease of 27%. The results confirm that there is a need for measures to halt the declines noted above, most of which are due largely to changes in farming practices and intensity, and also the increase of activity in extensively farmed uplands through forests and wind farm construction.

The assessment and outlook are overall very poor. Biodiversity losses and habitat changes continue on an international scale. EU conservation status reporting indicates generally declining trends and unfavourable status for many habitats, with 85% having unfavourable status in Ireland. Species are faring better, but 15% are in decline at EU level, mostly freshwater species. Agricultural activities remain the key pressure. The outlook is very poor, with climate change adding to pressures and cumulative impacts.

[13] http://ec.europa.eu/environment/nature/knowledge/rep_birds/index_en.htm (Accessed November 2023)

The 2023 report, Sustainable Development in the European Union[14], states that despite an increase in protected areas, many terrestrial habitats and species in the EU have not reached "favourable conservation status". The UN stating that biodiversity is in crisis. In Ireland, the majority of the most ecologically important habitats are reported to be of inadequate or bad conservation status.

The National Biodiversity Action Plan (NBAP) covering 2017-2021 reported that agricultural practices account for 70% of the negative impacts on habitats. The NBAP 2023-2030 reports that 85% of Ireland's EU protected habitats are at unfavourable status, with 46% showing ongoing declines. Almost a third of the EU-protected species are in unfavourable status, over half of native Irish plant species have declined. Over half of Ireland's 100 bee species have undergone substantial declines and 30% are threatened with extinction, 21% of breeding and 52% of key wintering bird species were reported to have short term declining trends.

Most species are considered to be stable, however a number of key species are declining. Pressures from changes to land use, intensification of agriculture, pollution and climate change, as well as the impacts of a growing economy, are likely to bring additional pressures on a number of species and habitats in Ireland. Based on the poor conservation status of many important habitats and some species, considerable efforts and resources will be required to improve their status, both within and outside protected areas.

4.5 Existing Threats and Pressures to EU Protected Habitats and Species

Under Article 17 of the Habitats Directive, Member States are obliged to identify threats and pressures to Qualifying Interests and Special Conservation Interests using a standard set of criteria. A threat is defined as '*Factors expected to act in the future after the current reporting period*' within the '*future two reporting periods, i.e., within 12 years following the end of the current reporting period*', and pressures are defined as '*Acting now and/or during (any part of or all of) the current reporting period*', within the '*current six-year reporting period*.'[15]

an '*Activity expected to have an impact on a species/habitat type in the future*' and a pressure is defined as an '*Activity impacting a species/habitat type during the reporting cycle*'.

Threats and pressures considered to be most relevantly linked either directly or indirectly to the draft first revision of NPF were extracted from the full list of threats and pressures[16]. The headline category considered relevant to the draft first revision of NPF is Category F- Development, construction and use of residential, commercial, industrial and recreation infrastructure and areas, with a more detailed breakdown of the threats and pressures under this category presented in **Table 4-2**.

Further information regarding the threat and pressure categories is available in the 2019 NPWS Article 17 reporting (Volumes 1 – 3)[5].

[14] European Commission, Eurostat, 2023. Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context – 2023 edition, Publications Office of the European Union. Available at: https://data.europa.eu/doi/10.2785/403194

[15] Reference Portal for reporting under the Article 17 of the Habitats Directive *Explanatory Notes & Guidelines for the period 2013-2018* http://cdr.eionet.europa.eu/help/habitats_art17. Accessed November 2023.

[16] Reference portal for reporting under Article 17 of the Habitats Directive – Threats and Pressures (last updated 24/05/2023) https://cdr.eionet.europa.eu/help/habitats_art17. Accessed November 2023.

Table 4-2: **List of Threats and Pressures Links to the Draft Revision to the NPF.**

Sub-categories Under Category F	Description of Sub-Category	Relevance to the Draft Revision to the NPF
Conversion of Land-Use to Housing	**F01**- Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)	Conversion of natural and semi-natural habitats to housing, settlement or recreational areas. Includes development of dispersed housing. This pressure can result in direct habitat loss in addition to habitat fragmentation and deterioration due to the conversion of land use and the activities associated with such a land use change *e.g.,* demand on resources (*e.g.,* building materials) and emissions from associated activities (*e.g.,* foul water pollution, recreational disturbance). Such changes can also result in impacts and effects on the species which are dependent on these habitats for whole or part of their life cycle.
	F02- Construction or modification (e.g., of housing and settlements) in existing urban or recreational areas	Construction in existing urban or recreational areas, reconstruction of existing buildings and structures, and the demolition of buildings and human structures. This pressure can include e.g., demolishment of structures important for nesting or sheltering of birds and bats, negative impact of isolation or other reconstruction works to nesting birds or bats. Includes deliberate closure of roofs (to prevent bats or birds). The pressure can result in the types of direct and indirect impacts and effects also identified with respect to **F01**.
Sports, Tourism, Leisure	**F05**- Creation or development of sports, tourism and leisure infrastructure (outside the urban or recreational areas)	Creation and development of sport and leisure structures outside the urban or recreational areas (e.g., building the ski lifts, cable cars, motocross circuits). This pressure can result in the types of direct and indirect impacts and effects also identified with respect to **F01**.
	F06- Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning	Activities connected with development and maintenance of recreational coastal areas and beach resorts such as levelling of dunes morphology, beach cleaning (also with mechanical vehicles), beach nourishment/sediment dynamics, human trampling and overuse, construction of buildings connected to the seaside bathing establishments, marine/beach litter deposition. This pressure can also result in disturbance and displacement effects to a number of species dependent on coastal habitats for whole or part of their life cycle.
	F07- Sports, tourism and leisure activities	Sport, tourism and leisure activities outside the urban and recreational zones (e.g., outdoor sports, leisure aircrafts, drones, human trampling, wildlife watching). This pressure can also result in disturbance and displacement effects to a number of species dependent on coastal habitats for whole or part of their life cycle.
Coastal Modification	**F08**- Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures)	Activities modifying coastline or estuary and coastal conditions triggered by urban development such as development and protection of residential, commercial, industrial and recreational infrastructure and areas. Includes activities like building sea defences and coastal protection infrastructure or maintenance of existing coastal structures (e.g., repairs to existing sea defences, harbour walls). This pressure can also result in coastal squeeze effects which prevent coastal habitats being able to respond to the effects of climate change; including sea level rise. This pressure can also result in disturbance and displacement effects to a number of species dependent on coastal habitats for whole or part of their life cycle.

Sub-categories Under Category F	Description of Sub-Category	Relevance to the Draft Revision to the NPF
Waste from Household/ Recreational Facilities	**F09**- Deposition and treatment of waste/garbage from household/recreational facilities	Management, including deposition and treatment (e.g., dumps, landfills, incineration and other methods of physical or biological processing) of waste from urban and recreational areas (e.g., household waste, other urban waste like waste from hospitals or from urban green areas, food waste from recreational areas). This pressure can result in both direct (*e.g.,* habitat loss) and indirect (*e.g.,* emissions – noise, dust, water quality) effects
Surface and Groundwater Pollution/Wastewater	**F11**- Pollution to surface or ground water due to urban run-offs	Pollution from rain and storm water running from urbanised areas carrying pollutants from roads and hard surfaces as well as fertilizers and pesticides used for urban vegetation. Such impacts can result in pressures on both habitats and the species which are dependent on those habitats for whole or part of their life cycle. There is also a potential for a lag-period between the pollution event(s) and its impact/effect(s) as the pollution moves through the pathway. In addition, there is a potential for a cumulative effect from several smaller pollution events (which may or may not be significant in their own right) combining to result in a significant cumulative effect.
	F12- Discharge of urban wastewater (excluding storm overflows and/or urban runoffs) generating pollution to surface or ground water	Discharges of urban wastewater (sewage) into surface and ground waters as well as discharges from nonmanufacturing commercial areas which can largely be assimilated as urban wastewater. Includes also activities related to household waste-water treatment. Such discharges result in direct and indirect impacts on habitats and the species dependent on these habitats in whole or part.
	F13- Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water	Discharges of industrial wastewater into surface and ground waters as well as diffuse pollution from contaminated or abandoned industrial sites. Includes also activities related to industrial waste-water treatment.
Marine Pollution	**F20**- Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution)	This pressure should be used to address the marine pollution originating from urban and recreational areas which cannot be directly attributed to specific activities covered by other level 2 pressures (e.g., if the source of the pollution is unknown or pollution is from several different sources). Such a pressure results in direct and indirect impacts on habitats and the species dependent on these habitats in whole or part.
	F22- Residential or recreational activities and structures generating marine macro- and micro- particulate pollution (e.g., plastic bags, Styrofoam)	Different activities (e.g., urban waste disposal, use of products containing micro-particles) related to residential and recreational areas generating marine macro- and microparticulate pollution (e.g., plastic bags, Styrofoam). Includes micro-residues in benthic habitats. Such a pressure results in direct and indirect impacts on habitats and the species dependent on these habitats in whole or part.
	F23- Industrial or commercial activities and structures generating marine macro- and micro-particulate pollution (e.g., plastic bags, Styrofoam)	Industrial processes (i.e., from industrial production and processing), storage and transportation of industrial products generating marine macro- and micro-particulate pollution (e.g., plastic bags, Styrofoam). Includes micro residues in benthic habitats.
Other Pollution, Noise,	**F24**- Residential or recreational activities and structures generating noise, light, heat or other forms of pollution	Different activities and structures related to residential and recreational areas that generate noise, light, heat or other forms of pollution.

Sub-categories Under Category F	Description of Sub-Category	Relevance to the Draft Revision to the NPF
Light, Heat	**F28**- Modification of flooding regimes, flood protection for residential or recreational development	Activities modifying physical structure and/or hydrological functioning of water bodies triggered by flood protection of urban and recreational zones (e.g., flood protection dams and reservoirs, river impoundments, canalisation, water deviation, removing bank vegetation).
Flooding	**F31**- Other modification of hydrological conditions for residential or recreational development	This pressure should be used to address activities related to development and use of housing and recreational areas and structures modifying physical structure and/or hydrological functioning of water bodies which cannot be directly attributed to specific activities covered by other level 2 pressures.
Abstraction of Water Resources	**F33**- Abstraction of ground and surface waters (including marine) for public water supply and recreational use	Abstraction from ground and surface waters for public water supply and recreational use (e.g., abstraction of fresh/marine water for swimming pools).

4.6 Relevant Biodiversity and Climate Policy

The draft Plan has had regard to the EU Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, as amended (commonly referred to as the Habitats Directive), and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (commonly referred to as the Birds Directive). However, a number of other biodiversity policies are considered relevant to the Climate Action Plan 23/24, which aim to address hand in hand the global biodiversity crisis and the global climate crisis. Relevant policies are summarised below.

The **EU Biodiversity Strategy to 2030** aims to put Europe's biodiversity on the path to recovery by 2030 for the benefit of people, climate, and the planet. The Strategy aims to build resilience to future threats, including climate change, security of food supplies, forest fires, outbreaks of disease and combating the illegal trade in wildlife. The Strategy includes four key objectives (i) establishing a larger EU-wide network of Protected Areas on land and at sea, (ii) EU Nature Restoration Plan, (iii) enabling transformative change and (iv) EU external actions and an ambitious global biodiversity agenda. In relation to (ii) the European Council approved the EU's Nature Restoration Law on the 17th June 2024 and, as a result, Member States will be required to submit National Nature Restoration Plans to the Commission within two years.

The **8th Environmental Action Programme to 2030** builds on the European Green Deal and aims to protect and restore biodiversity, pursuing zero pollution to air water and soil, and reducing climate pressures. Ireland has obligations under EU law to protect and conserve biodiversity. This relates to habitats and species both within and outside designated sites. Nationally, Ireland has produced its fourth (draft) Biodiversity Action Plan (BAP) covering the period 2023-2027, to address issues and halt the loss of biodiversity, in line with international commitments. The overall aim for Ireland's BAP is "t*o deliver the transformative changes required to the ways in which we value and protect nature*".

In the 7th and most recent EPA State of the Environment review - ***Ireland's Environment – An Assessment 2020*** (EPA, 2020) outlines a summary for the progress being made across key environmental policy areas in addition to the general trend and outlook. It details a number of challenges for national biodiversity including: habitat loss due to land use changes as the economy improves, climate change and associated potential change in the range of some habitats/ species and the expansion of invasive species. It notes that agricultural activities remain the key pressure and that habitat and Biodiversity loss continue. The outlook is poor with climate change adding to these challenges and cumulative impacts.

The fourth **National Biodiversity Action Plan 2023-2027** that builds upon the achievements of the previous plan has been published with the following objectives:

- Objective 1: Adopt a Whole of Government, Whole of Society Approach to Biodiversity;
- Objective 2: Meet Urgent Conservation and Restoration Needs;
- Objective 3: Secure Nature's Contribution to People;
- Objective 4: Enhance the Evidence Base for Action on Biodiversity; and

- Objective 5: Strengthen Ireland's Contribution to International Biodiversity Initiatives.

The 4th BAP also embeds various aspects of the EU Biodiversity Strategy into national biodiversity actions; including a commitment under Outcome 2F to publish a National Restoration Plan by 2026.

Ireland's **Biodiversity Sectoral Climate Adaptation Plan builds** on the foundations of the National Biodiversity Action Plan 2017-2021 and aim to identify adaptation options that will protect biodiversity and ecosystem services from the impacts of a changing climate and to enable ecosystems to play their role in increasing resilience to climate change. The plan identifies coastal habitats as being one of the habitat types most vulnerable to climate change. The plan also identified the increased pressures on species which impact upon their geographical range, and the increased occurrence and spread of invasive species due to shifts in climate, temperature and precipitation. A range of adaptive measures are proposed in the plan are important for resilience in the longer term.

Ireland's **National Marine Planning Framework** was published in July 2021 and forms a key decision-making tool for regulatory authorities and policy makers into the future. It is a single plan covering all marine activities which reflects the need for a coherent strategic vision for marine planning in Ireland. The planning framework is a long-term strategy for the next 20 years which sets the groundwork for the development of the marine waters surrounding Ireland. The NMPF addresses both opportunities and challenges to deliver policy directions across a broad spectrum. Any activities implemented under the draft Policy Framework that constitute 'development' will be subject to the relevant national (including marine, if applicable), regional and local planning policies and the sustainability and environmental protection measures contained within these policies.

The **National Development Plan (NDP)** and the **National Planning Framework (NPF)** together make up 'Project Ireland 2040'. These documents are at the top of the spatial planning hierarchy in Ireland and are the Government's high-level plan for the future of sustainable development in Ireland. These documents set land use policies at the national level, as it is necessary to make choices about how we balance growth with more sustainable approaches to development and land use by examining how planning policy can help shape national infrastructural decisions.

The **National Peatlands Strategy 2015-2025** outlines that restoration or rehabilitation of peatlands can be compatible with wind energy installations. It sets out a cross-governmental approach to managing issues that relate to peatlands, including compliance with relevant national and international environmental legislation, agreements, plans and policies; climate change; forestry; water quality; flood control; energy; nature conservation and restoration; land use planning; and agriculture. Mid-term review of this strategy was conducted in 2021 and 16 actions were refined taking into account developing national policies and programmes related to peatlands. It also includes all the peatland related actions proposed under Climate Action Plan 2021 and regarding peatlands proposed under 2020 Programme for Government to maximise the benefits for biodiversity. The CAP supports and includes for actions that involve the continued implementation of actions related to peatland restoration/rewetting.

The recently published **Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)** sets out the most up-to-date scientific information in relation to climate change globally. It highlights the need for urgent, effective, and equitable action globally, and confirms that climate change is threatening the health and livelihoods of people around the globe, as well as ecosystem health and biodiversity. It also makes clear that predicted changes in response to changes in the climate system, some of which are set out below, will also become larger as warming increases:

- Rising sea-levels threatening land and particularly coastal infrastructure;
- Extreme weather, including more intense storms and rainfall affecting our land, coastline, and seas;
- Further pressure on our water resources and food production systems with associated impacts on river and coastal ecosystems;
- Greater political and security instability;
- Displacement of populations with increased numbers of climate refugees;
- Heightened risk of the arrival of new pests and diseases;
- Poorer water quality;
- Changes in the timing of lifecycle events for plants and animals on land and in the oceans.

It highlights the link between **climate change and biodiversity loss** and underscores the need to safeguard biodiversity and ecosystems as a fundamental part of climate resilient development.

Under the **Climate Action and Low Carbon Development (Amendment) Act 2021**, Ireland's national climate objective requires the State to pursue and achieve, by no later than the end of the year 2050, the transition to a climate-resilient, biodiversity-rich, environmentally sustainable and climate-neutral economy. The Act also provides for provides for a reduction of 51% in GHG emissions by 2030, compared to 2018 levels. The **Climate Action Plan 2023** (CAP23) sets out the roadmap to deliver on Ireland's climate ambition. It aligns with the legally binding economy-wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022. This will enable Ireland to meet 2030 targets. The draft **Climate Action Plan 2024 (CAP24)** seeks to build on the progress made under CAP23 by delivering policies, measures and actions that will support the achievement of our carbon budgets, sectoral emissions ceilings, and 2030 and 2050 climate targets.

5 STAGE 1: SCREENING FOR APPROPRIATE ASSESSSMENT

In order to comply with the requirements of Article 6(3) of the EU Habitats Directive, the process of Screening for AA was undertaken at an early stage of the draft first revision of NPF. The AA Screening assessed the potential for the draft first revision of NPF to result in likely significant effects on any European sites within the Natura 2000 network, either alone or in combination with other plans and projects.

The screening report prepared concluded that an Appropriate Assessment of the draft first revision of NPF was required for the following reasons:

- Is not directly connected with or necessary to the management of a European site; and
- Is Likely Significant Effects (LSE), either alone or in combination, on European sites could not be ruled out.

Therefore, adopting the precautionary principle, the AA Screening Report concluded that a Natura Impact Statement (NIS) should be prepared.

DHLGH subsequently made a screening determination that there was potential for LSE and Stage 2 of the AA process would be required to inform the AA determination on the draft first revision of NPF.

6 STAGE 2: APPROPRIATE ASSESSMENT

6.1 Introduction

The assessment considers the potential impacts[17] that the implementation of draft first revision of NPF could have on the integrity of any European sites, with respect to the conservation objectives, their structure and function. EC guidance[1], states that the integrity of a site involves its ecological functions and the decision as to whether it is adversely affected should focus on, and be limited to, the site's conservation objectives. As noted earlier in this NIS, in the absence of geographic specificity within the draft first revision of NPF and given the strategic nature of the first revision of NPF, the focus has been on the broad intention of conservation objectives more so than site-specific conservation objectives. The addition of detail at lower planning tiers will be necessary to assess any effect on site-specific conservation objectives.

The potential effects have been assessed in the absence of any mitigation measures and also with application of the precautionary principle. It is noted that the development of the draft first revision of NPF has benefited from an integration of SEA/AA expertise to highlight and address concerns on an ongoing basis as the draft first revision of NPF has evolved. This is in line with EC Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive[1] which promotes a hierarchy beginning with avoidance before considering mitigation and compensatory measures. Through iterative discussion during the preparation of the draft first revision of NPF, avoidance of impacts as a result of implementing draft first revision of NPF has therefore been at the forefront of discussions with DHLGH.

It is noted that the draft first revision of NPF is a strategic action plan which will be supported by a robust tiering of regional and sectoral level plans within the overall proposed hierarchy. As detail is developed down through the hierarchy, further opportunity for focussed regional/local policy and project assessment will be required to inform decision making at a granularity which cannot be undertaken at the national scale.

6.2 Approach to Assessment

In line with the relevant guidance, this stage of the Appropriate Assessment consists of three main steps:

- **Impact Prediction** - where the likely impacts of draft first revision of NPF are examined. A source-pathway-receptor model has been used to assess potential for impact;
- **Assessment of Effects** - where the effects of draft first revision of NPF are assessed as to whether they have any adverse effects on the integrity of European sites as defined by conservation objectives; and
- **Mitigation Measures** - where mitigation measures are identified to ameliorate any adverse effects on the integrity of any European site.

6.3 Prediction of Effects

As noted in **Section 3**, in considering the potential for impacts from implementation of the draft first revision of NPF, a "source–pathway–receptor" approach has been applied. The source relates to the first revision of NPF policies which have the potential to adversely affect European sites. The pathways relate to how the draft first revision of NPF policies can affect European sites, e.g., habitat loss/ fragmentation, disturbance to species or impacts to water quality. The receptor is any European site(s), potentially including those transboundary sites for which there is a pathway of connectivity as a result of the implementation of the draft first revision of NPF.

6.3.1 Context for Impact Prediction

The development and implementation of the draft first revision of NPF sets out a strategy for the sustainable development of places in Ireland and how that can be achieved. However, the draft first revision of NPF has potential to adversely affect European Sites given the nature of the policy objectives it presents; particularly with respect to planned population and economic growth, the response to climate change and emphasis on

[17] Impacts considered include direct, indirect, short term, long term, temporary, permanent and cumulative.

renewable energy and its support for the agri-food sector. As the framework is focused on a national scale and strategic level, the potential is generally not for direct or location impacts but rather indirect impacts arising from the potential for development out of the various national policy objectives. **Section 6.3.2** identifies the main potential ecological impacts that could arise from the implementation of the draft first revision of NPF.

6.3.2 Impact Identification

A summary of the main potential ecological impacts that could arise from the implementation of the draft first revision of NPF are presented below and are used in the impact prediction.

- **Permanent and/or temporary habitat loss, fragmentation or degradation (including key supporting functions):** Habitat loss or destruction is caused where there is complete removal of a habitat type, for example arising from the development of new infrastructure or via change of land use which alters the existing habitat. Habitat fragmentation results from the incremental loss of small patches of habitat within a larger landscape. Fragmentation can also result from impediments to the natural movements of species including for foraging, migration or responses due to impacts of climate change. This is relevant where important corridors for movement, dispersal or migration are disrupted. Habitat degradation results in the diminishment of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination from spillages, or physical alteration (e.g., arising from poor management during construction and subsequent operation of new infrastructure). Degradation can be detected immediately or incrementally and cumulatively over time. Increases in population in the three regions, whether focused on metropolitan areas, large, or small towns, has the potential for habitat loss, fragmentation and or degradation. While the draft first revision of NPF has a specific focus on infill and brownfield development, there is, nonetheless, potential for greenfield development to ensure the population increases proposed can be accommodated. There is also the potential for increased disturbance from new populations or increased densities in sensitive areas.
- **Disturbance to key habitats/ species including damage to breeding, resting and feeding areas**: Disturbance to habitats/species within a European Site is likely to increased where there is an increase in activity or disturbance levels from developments within or in proximity to those sites. It is particularly important that known sensitive areas, such as those supporting breeding birds, otter, salmonids, and others, are taken into consideration during the design stage of any development, prior to approval. As the draft first revision of NPF deals with strategic infrastructure, including roads, rails, airports, and ports, this is an important consideration.
- **Species mortality and injury:** Species mortality and injury can result from direct and indirect impacts, for example as a result of collision (e.g., roads and wind farms), alteration to breeding/resting habitat during construction (e.g., diminished breeding success, reduced ability to forage), and the spread of invasive alien species (e.g., reduced food availability). This may lead to changes in species distribution and/or changes that affect productivity, breeding success, and population viability. In addition, species mortality can occur when conditions/habitat underpinning the survival of the species are altered (e.g., water quality, removal of ecological corridors), and these are discussed under the other relevant headings in this section.

Changes in key indicators of conservation value, include the following:

- **Alterations to water quality and/or water movement:** This is relevant where there could be an impact on the hydrological/hydrogeological connection to a European Site or on water quality. This could be via point source or diffuse pollution from developments/activities or via developments/activities that alter surface or subsurface water quality and flow. In terms of the potential for alteration of water quality, the impact(s) may be *in-situ* or *ex-situ* (i.e., downstream and outside the immediate area) and can include the release of suspended solids, increased nutrients, changes to water chemistry, hydrocarbons, mobilisation of historic contaminants etc. Alterations to subsurface water flow or groundwater can result in impact to groundwater-dependent habitats, such as petrifying springs and fens. Alterations to key marine processes can result in impact to dependent habitats such as saltmarsh. Introduction or expansion of barriers and changes to natural sedimentation/erosion processes can also impact on life cycles for important species, such as salmon, and in turn, freshwater pearl mussel, which is confined to freshwater rivers and streams inland but is dependent on a marine migratory species for its long-term survival.

- **Alterations to air quality:** The burning of fossil fuels, whether for transport or energy generation, results in the release of emissions to air. The key effects on European Sites associated with fuel combustion are; nitrogen/sulphur deposition leading to acidification and eutrophication of soils/water, deposition of particulate matter leading to vegetation damage, and increased concentrations of atmospheric CO and CO_2.
- **Introduction or spread of invasive species:** Invasive species can have serious negative consequences on their environment and cause damage to native ecosystem functions and services (e.g., by outcompeting native species). This would be of particular concern for any works within European Sites but also any works with connectivity to a European Site (e.g., hydrological connectivity). Machinery and personnel can act as vectors to inadvertently cause the introduction or spread of invasive species and, in particular, invasive plant species. The importation of materials (e.g., soil contaminated with invasive species) can also result in the introduction/spread of invasive species. In addition, climate change could result in range expansion for some invasive species, which could potentially be further facilitated through the range contraction of native species.
- **In-combination impacts**: A series of individually modest impacts may, "in combination", produce a significant impact. The underlying intention of this in-combination provision is to take account of combined impacts, and these will often only occur over time. In that context, consideration must be given to plans or projects which are completed, in preparation, or approved but uncompleted/ Where there is a series of small but potentially adverse impacts occurring within or adjacent to a European Site, consideration should be made as to their combined impacts.

6.3.3 Impact Prediction

In line with the methodology for impact prediction outlined in **Section 3**, the main ecological impacts that could potentially arise from the actions, measures, and pathways outlined in the policies of the draft first revision of NPF are summarised in **Table 6-1** and discussed in the following sections. In-combination impacts are assessed separately in **Section 6.5**.

It is acknowledged that the draft first revision of NPF is a high-level framework document and, as such, prediction of effects at individual European Sites is not practical as the draft first revision of NPF, other than with respect to the five cities identified with respect to NPO4, lacks the necessary spatial detail to give context to the extent or significance of any potential effects. As such, the potential for effects is raised within the confines of the draft first revision of NPF, with a view to appropriately informing lower levels of planning, where the necessary spatial detail is available and identifying the mitigation measures that must be in place for lower-tier plans and projects to ensure the protection of the European Sites is possible. With respect to the five cities identified with respect to NPO4, high-level consideration has been given to the European sites within and adjacent to these conurbations for the purposes of assessment.

Table 6-1: Main Ecological Impacts That Could Potentially Arise from the Actions, and Steps, Outlined in Draft First Revision of NPF.

Impact Source	Impact Identification	Impact Prediction
Development Related to Population Growth	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	• Potential direct impacts where developments and activities (infrastructure, land management, development of public realms etc.) overlap or intersect with European sites; • Potential indirect impacts where developments and activities (infrastructure, land management, development of public realms etc.) adjoin, are proximal to or support connectivity with European sites
Economic Development	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or	Potential direct impacts where developments and activities (infrastructure, land management etc.) overlap or intersect with European sites;

Impact Source	Impact Identification	Impact Prediction
	deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential indirect impacts where developments and activities (infrastructure, land management etc.) adjoin, are proximal to or support connectivity with European sites
Transport Infrastructure; Including Ports and Harbours	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential direct and indirect impacts associated with the development of infrastructural projects such as built environment and transport sector, where actions overlap, adjoin, are proximal to or support connectivity with European sites.
Energy Infrastructure– Electricity and Renewable Energy	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential direct and indirect impacts associated with the development of infrastructural projects such as, energy (e.g., wind, solar, geothermal systems, grid expansion), and the overall development of a decarbonised industry, where actions overlap, adjoin, are proximal to or support connectivity with European sites.
Agri-food Industry	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	• Potential direct impacts where developments and decarbonisation activities (infrastructure, land management, land use change and diversification, aquaculture expansion etc.) overlap or intersect with European sites; • Potential indirect impacts where developments and decarbonisation activities (infrastructure, land management, land change and land diversification, aquaculture expansion etc.) adjoin, are proximal to or support connectivity with European sites.
Tourism and Leisure	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential impacts could be associated with actions that afford greater access to areas designated as or supporting connectivity with European sites, such as the restoration and rehabilitation of peatland habitat, the development of walking and cycling tracks and trails, and waterways and the decarbonisation of public and private transport. These may comprise direct and indirect impacts, depending on the development scale, size, location, duration etc.

Impact Source	Impact Identification	Impact Prediction
Flood Protection and Climate Change Adaptation	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential direct and indirect impacts associated with the development of infrastructural projects (e.g. flood relief), and climate adaptation activities (e.g., monitoring, assessment, nature-based solutions) where actions overlap, adjoin, are proximal to or support connectivity with European sites.
Resource Extraction *e.g.,* Water, Minerals, Aggregates and Timber	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential direct and indirect impacts associated with the extraction of resources (e.g. water abstraction, timber manufacturing), where actions overlap, adjoin, are proximal to or support connectivity with European sites.
Other Enabling Infrastructure *e.g.,* Telecommunications	• Permanent and/or temporary habitat loss, fragmentation and/or degradation; • Disturbance to key habitats/ species including damage and/or deterioration to breeding, resting, and feeding areas; • Species mortality and injury; • Alterations to water quality and flow; • Alterations to air quality; • Introduction or spread of invasive species; • In-combination impacts.	Potential direct and indirect impacts associated with the development of supporting infrastructure projects (e.g. wastewater treatment facilities, telecommunications), where actions overlap, adjoin, are proximal to or support connectivity with European sites.

6.4 Assessment of the Draft First Revision of NPF

Article 6 of the Habitats Directive states that:

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

The impact prediction and assessment of potential effects of the mitigation measures outlined in the draft first revision to the NPF on the Natura 2000 Network has considered the potential to impact on the achievement of the conservation objectives of the European Sites and is presented in the following sections. The European sites pertinent to the assessment are those identified in **Section 4.1** and as listed in **Appendix A** to **Appendix D**, inclusive. These include the transboundary sites in Northern Ireland.

The purpose of the draft first revision to the NPF is to continue providing a focal point for spatial plans throughout the planning hierarchy. The draft first revision to the NPF will co-ordinate the strategic planning of urban and rural areas in a regional development context to secure overall proper planning and development

as well as co-ordination of the RSES's and city/county development plans in addition to local economic and community plans as well as local area plans and local development.

6.4.1 The Impact of Spatial Planning on Biodiversity and the Natura 2000 Network

Effective spatial planning can act as a first line of defence for maintaining the integrity of the Natura 2000 network in Ireland and as a consequence protect biodiversity; including ensuring that spatial planning does not become a barrier to enable the favourable conservation status of European sites to be achieved; particularly where the habitats and species of those European sites have currently an unfavourable status. Adequate consideration of the SSCOs of European Sites into spatial planning is essential for promoting ecological sustainability, maintaining biodiversity, and ensuring the long-term health of Europe's natural heritage.

A spatial planning view that sees nature as part of a wider landscape and seeks to integrate and enhance biodiversity is likely to result in better outcomes for all stakeholders. Examples of spatial planning led initiatives which seek to integrate biodiversity are evident in Ireland and provide evidence base and lessons learned for a more national approach. Some local authorities, for example, have developed Green Infrastructure networks to support, integrate and enhance significant European Sites with development areas. This includes strategies for integration of networks of natural habitat/biodiversity locations, parkland for low intensity recreational uses, heritage features, green routes, surface water and flood risk management with development areas. The approach does not pit one sector against another but instead sees the interconnectedness between different elements of a spatial plan. By recognising this early in the plan making process, strategies can be developed which plan for integration rather than react to conflict. Spatial planning also provides the opportunity to be able to build-in capacity for the planned economic and population growth; particularly in managing recreational pressures on European sites and ensuring that water quality issues (particularly with respect to nutrients) being addressed.

A further challenge for spatial planners is to understand and plan for a future with climate change, where adaptation and mitigation will be required to provide resilience not only for citizens but also for habitats and species. Global warming and climate change are recognised threats to biodiversity, and hence to European Sites and pose complex problems for planning and particularly nature conservation policy and practice. In 2007, the EPA published a study investigating the impacts of climate change on the nature conservation resources of Ireland, through the use of ecological modelling (Coll *et al*., 2012). The results of this study suggested that the habitats most vulnerable to the impacts of climate change in Ireland are:

- Upland habitats (siliceous and calcareous scree, siliceous and calcareous rocky slopes, alpine and subalpine heath);
- Peatlands (raised bog, blanket bog); and
- Coastal habitats (fixed dunes, etc.).

The report concluded that "…*it is projected that many species in Ireland will experience significant changes to their ranges under future climate scenarios. Species with disjunct and narrow distributions are projected to experience the largest range changes, contracting and expanding, respectively*".

The key messages from the research indicate that we are already seeing changes in natural systems in Ireland, and these are likely to continue, accelerating in scope and scale into the future. This scope and scale will continue into the future if greenhouse gas emissions continue unabated or increase. GHG emissions in Ireland originate from many sources but transport is one of the highest emitting sectors. The future transport needs for Ireland must therefore align with national climate adaptation and mitigation objectives and to do this smarter travel policies must be fully supported by smarter land use planning objectives which connect public transport with higher density housing in cities while also maximising opportunities to develop more public transport options for larger and smaller towns around Ireland.

In spatial planning terms and although climate change is a significant threat to biodiversity, it is important that any development related to responding to the effects of climate change do not further compound the effect on biodiversity through resulting in added biodiversity losses, threats or pressures.

6.4.2 Chapter 1- The Vision

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
1	Ensure that all plans, projects and activities requiring consent arising from the National Planning Framework are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate.	Ensure that all plans, projects and activities requiring consent arising from the National Planning Framework are subject to the relevant environmental assessment requirements including SEA, EIA, SFRA and AA as appropriate.	No adverse effects on the integrity of European sites.	No

No adverse effects on integrity with respect to NPO1

Previous NPO 75 has been renumbered as **NPO 1**. The relocation of previous NPO75 as NPO 1 to Chapter 1 of the draft Plan following the iterative discussions as a part of SEA and NIS process is welcomed. **Policy NPO1** ensures that all plans, projects and activities requiring consent arising from the National Planning Framework are subject to the relevant environmental assessment requirements as appropriate including AA. This is a positive policy with respect to European sites and no adverse effects on the integrity of European sites will result from the implementation and application of this policy.

6.4.3 Chapter 2- A New Way Forward

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
2	The projected level of population and employment growth in the Eastern and Midland Regional Assembly area will be at least matched by that of the Northern and Western and Southern Regional Assembly areas combined.	No change.	Adverse effects on the integrity of European sites.	Yes
3	Eastern and Midland Region: 490,000 - 540,000 additional people, i.e., a population of around 2.85 million;	Eastern and Midland Region: approximately 470,000 additional people between 2022 and 2040 (c. 680,000 additional people over 2016-2040) i.e., a population of almost 3 million; Northern and Western Region: approximately 150,000 additional people between 2022 and 2040 (c. 210,000 additional people over 2016-2040) i.e., a population of just over 1 million;	Adverse effects on the integrity of European sites.	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	Northern and Western Region: 160,000 - 180,000 additional people, i.e., a population of just over 1 million; Southern Region: 340,000 - 380,000 additional people, i.e., a population of almost 2 million.	Southern Region: approximately 330,000 additional people over 2022 levels (c. 450,000 additional people over 2016-2040) i.e., a population of just over 2 million.		
~~1c~~	~~Eastern and Midland Region: around 320,000 additional people in employment, i.e., 1.34 million in total;~~ ~~The Northern and Western Region: around 115,000 additional people in employment, i.e., 450,000 (0.45m) in total;~~ ~~The Southern Region: around 225,000 additional people in employment, i.e., 880,000 (0.875m) in total~~	Deleted		
4	A target of half (50%) of future population and employment growth will be focused in the existing five Cities and their suburbs[12].	No change.	Adverse effects on the integrity of European sites.	Yes
5	The regional roles of Athlone in the Midlands, Sligo and Letterkenny in the North-West and the Letterkenny-Derry and Drogheda-Dundalk-Newry cross-border networks will be identified and supported in the relevant Regional Spatial and Economic Strategy.	The regional roles of Athlone in the Midlands, Sligo and Letterkenny in the North-West and the Letterkenny-Derry and Drogheda-Dundalk-Newry cross-border networks will be supported in the relevant Regional Spatial and Economic Strategy and in Regional Enterprise Plans.	Adverse effects on the integrity of European sites.	Yes
6	Accessibility from the north-west of Ireland and between centres of scale separate from Dublin will be significantly improved, focused on cities and larger	No change.	Adverse effects on the integrity of European sites.	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	regionally distributed centres and on key east-west and north-south routes.			
7	Deliver at least 40% of all new homes nationally, within the built-up footprint of existing settlements[17]. Footnote 17- This means within the existing built-up footprint of all sizes of urban settlement, as defined by the CSO in line with UN criteria i.e. having a minimum of 50 occupied dwellings, with a maximum distance between any dwelling and the building closest to it of 100 metres, and where there is evidence of an urban centre (shop, school etc.).	Deliver at least 40% of all new homes nationally, within the built-up footprint of existing settlements and ensure compact and sequential patterns of growth[13]. Footnote 13- This objective relates to all settlements defined as a settlement by CSO. For the purposes of NPO 7, 8 and 9, the built-up footprint is defined as the area given over to urban land uses (i.e. artificial surfaces relating to urban land uses). The built-up footprint shall be clearly defined for each settlement on the land-use zoning map as part of the statutory plan making process.	Adverse effects on the integrity of European sites.	Yes
8	Deliver at least half (50%) of all new homes that are targeted in the five Cities and suburbs of Dublin, Cork, Limerick, Galway and Waterford, within their existing built-up footprints[18]. ~~Footnote 18- On the basis of National Policy Objective 2a, this effectively targets 25% of all new homes nationally within the five cities and their suburbs as defined by the CSO in the Census of Population.~~	No change in the policy but the footnote has been removed.	Adverse effects on the integrity of European sites.	Yes
9	Deliver at least 30% of all new homes that are targeted in settlements other than the five Cities and their suburbs, within their existing built-up footprints[19]. ~~Footnote 19- On the basis of National Policy Objective 2a, this effectively targets 15% of all new homes nationally. Individual or scheme homes delivered outside the CSO defined urban settlement boundary are classed as greenfield.~~	No change in the policy but the footnote has been removed.	Adverse effects on the integrity of European sites.	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
10	N/A	**NEW:** Deliver Transport Orientated Development (TOD) at scale at suitable locations, served by high capacity public transport and located within or adjacent to the built up area of the five cities or a metropolitan town.	Adverse effects on the integrity of European sites.	Yes
11	N/A	**NEW:** Planned growth at a settlement level shall be determined at development plan-making stage and addressed within the objectives of the plan. The consideration of individual development proposals on zoned and serviced development land subject of consenting processes under the Planning and Development Act shall have regard to a broader set of considerations beyond the targets including, in particular, the receiving capacity of the environment.	Adverse effects on the integrity of European sites.	Yes

Assessment of Adverse Effects on Integrity

Adverse effects on integrity with respect to NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11. Mitigations required to address these effects.

Policy NPO2 is unchanged from the original NPF; however, as detailed below, there have been key changes in biodiversity legislation, policy, guidance and evidence base since the original policy was published and assessed. These key changes require this NPO to be reassessed in light of the changes. NPO2 broadly directs where projected levels of population and employment growth will be located with reference to the Eastern and Midland Regional Assembly Area, North and Western Regional Assembly Area and Southern Regional Assembly Area. This is expanded upon in **Policy NPO3**, which has been updated since the original policy was published and assessed. **Policy NPO3** identifies increases in projected populations, beyond that originally identified, in each of the Regional Assembly Areas between 2022 and 2040.

The key changes in biodiversity legislation, policy, guidance and evidence base since the original NPF was published include:

Dáil Éireann declaring a national climate and biodiversity emergency in May 2019;

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	The publication in 2019, as required under Article 17 of EU Habitats Directive of the conservation status of natural habitats and species listed under the Annexes of the Directive (commonly known as "Article 17 Reports")[18,19,20]; The publication in 2019, as required under Article 12 of the EU Birds Directive of the implementation of the national provisions taken under this Directive including specific reporting on status and trends of bird species. The publication of the EU Biodiversity Strategy during 2020[21]; The publication of the 4th National Biodiversity Action Plan (4th BAP) during 2024; the first to be published on a Statutory basis under the Wildlife Amendments Act 2023[22]; The legislative changes with respect to the transposition of the EU Habitats Directive during the intervening period; The publication by NPWS of Conservation Management Plans for some Natura 2000 sites (various dates)[23]; and The publication by EPA of reports on significant pressures impacting on water quality including with respect to the key pressures relating to urban waste water (May 2024)[24]. The publication by EPA of its annual water quality reports since 2018; including the most recent published for 2023[25]. The approval of the Nature Restoration Law by the European Parliament on the 17th June 2024. With reference to these key changes:		

[18] Department of Culture, Heritage and the Gaeltacht (2019) *The Status of EU Protected Habitats and Species in Ireland – Vol. 1 - Overview.* https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf

[19] Department of Culture, Heritage and the Gaeltacht (2019) *The Status of EU Protected Habitats and Species in Ireland – Vol. 2 - Habitats.* *https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol2_Habitats_Article17.pdf*

[20] Department of Culture, Heritage and the Gaeltacht (2019) *The Status of EU Protected Habitats and Species in Ireland – Vol. 3 - Species.* *https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf*

[21] https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

[22] https://www.gov.ie/en/publication/93973-irelands-4th-national-biodiversity-action-plan-20232030/

[23] https://www.npws.ie/protected-sites/conservation-planning/available-plans

[24] https://www.catchments.ie/epa-publishes-report-update-on-pressures-impacting-on-water-quality/

[25] EPA (2024) *Water Quality in 2023 – An Indicators Report.* *https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/EPA-Water-Quality-Indicator-Report-2023-web-11June2024.pdf*

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

The Article 17 Report identified at 85% of habitats are in unfavourable (*i.e.,* inadequate or bad) status with 46% of habitats demonstrating ongoing declining trends. “Development, construction and use of residential, commercial, industrial and recreational infrastructure and areas” is identified as a pressure in 41% of habitats. With respect to species, 30% are in unfavourable status with 15% demonstrating ongoing declining trends. “Residential, commercial, industrial and recreational” is identified as a pressure in c. 20% of species (see **Appendix E**).
Based on EPA reports on significant pressures, 34% of waterbodies are currently “at risk” of not meeting their environmental objectives with nutrient losses, physical changes to habitat conditions and organic pollution the dominant significant impacts driving this risk. Discharges from urban wastewater treatment plants and agglomeration networks have been identified as the fourth most prevalent significant pressure to waterbodies.
The latest EPA report regarding water quality in Ireland (published June 2024) has shown that there is no significant change in any of the water quality indicators for Ireland’s waterbodies and no sign of improvement with nutrient pollution from agriculture and wastewater been identified as the most significant issues with respect to water quality.
The EU Biodiversity Strategy seeks to restore degraded ecosystems and stop any further damage whilst also increasing the percentage of EU land which is effectively managed and coherent protected areas.
The 4th BAP, under Outcome 2A, includes a target that, by 2030, trends in the status of the protected habitats and species under the Habitats and Birds Directives are improving. This Outcome also includes a target that, by 2030, in line with the EU Biodiversity Strategy, habitats and species under the Habitats and Birds Directives show no deterioration in conservation trends and status and at least 30% of those not in favourable status will reach that status or show a positive trend. The 4th BAP also includes a target that Ireland has identified preliminary areas that will be pledged as future protected areas under the EU Biodiversity Strategy by 2024.

In light of the above and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO2 and NPO3 in the absence of mitigation**. This is particularly mindful of projected and increased level of population and employment growth identified in the NPF and given:

The Conservation Objectives of European sites seek that the favourable conservation status of QIs, and SCIs are at least maintained and, for some European Sites, restored;
The current evidence in relation to the status of protected habitats and species in Ireland; which is generally unfavourable and, in some cases, declining further;
That existing urban pressures and threats are key causes of negative/declining status; and
Ireland’s legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030 as set out in the 4th National Biodiversity Action Plan; and
Ireland’s legally binding commitment to publish a National Restoration Plan by 2026 to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets; as committed to in Outcome 2F of the 4th National Biodiversity Action Plan.

Policy NPO4 identifies that half of the future population and employment growth will be focused in the existing five Cities and their suburbs; namely Dublin, Cork, Limerick, Galway and Waterford. All five Cities and their suburbs lie within, adjacent to or in close proximity to European sites which are already subject

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

to threats and pressures from urban development and activities. An assessment, commensurate with the identification of the five Cities for accommodating this population and employment growth within the NPF, is summarised below:

Dublin (See **Appendix F**)

There are 8 no. SACs and 9 no. SPAs within 15 km of Dublin City Centre[26] (see Figure F-1). Collectively, for the QIs for which the SACs have been designated the majority are in unfavourable status (*i.e.,* inadequate or bad) based on the available Article 17 reporting.

The unfavourable status is resulting from a number of threats and pressures including those associated with urban/urbanising pressures including:

Discharge of urban waste water generating pollution to surface or ground water;

Pollution of surface and ground waters (e.g., nutrients and sediments);

Modification of hydrological flow;

Drainage;

Water abstractions for drinking water and other purposes;

Recreational threats and pressures;

Residential and recreational activities and structures generating marine pollution;

Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas;

Conversion from other land uses to housing, settlement or recreational areas;

Development and maintenance of beach areas for tourism and recreation;

Sports, tourism and leisure activities; and

Roads, paths, railroads and related infrastructure associated with urban and urbanising areas.

Specific commentary is also available regarding existing urban pressures and threats for some of these European sites within 15 km of Dublin, including:

Wicklow Mountains SAC. The SAC adjoins and is closely associated with Dublin and its smaller satellite towns and villages and is considered to be very accessible from Dublin and its suburbs. This proximity does pose specific issues in relation to the SAC, including pressure from recreational use and visitor access at particular locations[27]. It is considered reasonable to conclude that such issues are also relevant to the Wicklow Mountains SPA.

[26] The radius of search was an arbitrary area measured from an approximate centre point for each city to identify those European sites within or close to those cities and therefore likely to be affected most by the policies of the draft revised NPF by virtue of their proximity and spatial relationship to the urban area. This is applicable to all five cities – Dublin, Cork, Waterford, Limerick and Galway.

[27] NPWS (2005) *Management Plan for Wicklow Mountains National Park 2005-2009*

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

Rockabill to Dalkey Island SAC, South Dublin SAC, North Dublin SAC and Baldoyle Bay SAC. With respect to these SACs, anthropogenic disturbance was identified as an issue for reef [1170] habitats and it is stated that any significant anthropogenic disturbance should be avoided. Significant anthropogenic disturbance, if it occurs at such an intensity and/or frequency, can effectively represent a continuous and ongoing source of disturbance over time and space. Effluent discharge is identified as such a disturbance28,29,30,31.

North Dublin SAC. With respect to this SAC, human disturbance is identified as one of the strong controlling factors on the vegetation composition of the dune habitats and negative impacts due to the disturbance arising from the amenity use of Bull Island have been identified, however these are documented as having a low impact on the saltmarsh structure and functions within the SAC32.

Howth Head SAC. Coastal protection works are identified as disrupting the natural integrity of sea cliffs within the SAC33.

Malahide Estuary SAC. The main threats affecting the SAC are recreational activities, water pollution and infilling. Also, owing to the proximity of the SAC to urban areas, the area is popular for watersports and other amenities; which contribute to these threats. In relation to fixed dune habitat [H2130], which is in unfavourable condition, the extent of the habitat is threatened by invasive species and natural erosion compounded by human activities (recreational activities including activities associated with the existing golf course[34].

The predicted population growth for Dublin is likely to add to existing threats and pressures and, potentially, worsen the status of a number of QIs and SCIs; contrary to the legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030.

Cork (See **Appendix G**)

There are 1 no. SAC and 1 no. SPA within 15 km of Cork City Centre (see Figure G-1) Great Island Channel SAC supports two QI habitats; namely mudflats and sandflats not covered by seawater at low tide [1140] and Atlantic salt meadows [1330]. Based on Article 17 reporting the former QI is in unfavourable condition while the latter is in favourable condition. Residential or recreational activities and structures generating marine pollution, agricultural activities generating marine pollution and marine aquaculture generating marine pollution are identified as existing pressures and threats with respect to the mudflat and sandflat QI. While, with respect to the Atlantic salt meadows QI, the following threats and pressures are identified:

[28] NPWS (2013) Rockabill to Dalkey Island SAC (site code: 3000). *Conservation objectives supporting document - Marine Habitats and Species. Version 1*

[29] NPWS (2013) South Dublin SAC (site cod: 2010). *Conservation objective supporting document – Marine Habitats. Version 1*

[30] NPWS (*2013) North Dublin Bay SAC (site code: 0206). Conservation objectives supporting document - marine habitats*. Version 1

[31] NPWS (2012) Baldoyle Bay SAC (site code: 199) *Conservation objectives supporting document - Marine Habitats. Version 1*

[32] NPWS (*2013) North Dublin Bay SAC (site code: 0206). Conservation objectives supporting document - marine habitats*. Version 1

[33] NPWS (2016) *Howth Head SAC (site code: 000202) Conservation objectives supporting document - Coastal habitats.* Version 1

[34] NPWS Malahide Estuary SAC (site code: 205) Conservation objectives supporting document - Marine habitats Version 1 May 2013

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
Intensive grazing and overgrazing; Sports, touring and leisure activities; Modifications of hydrological flow and physical alteration of waterbodies for agriculture; Other agricultural activities; Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure (including sea defences or coastal protection works and infrastructures); and Invasive alien species. The predicted population growth for Cork is likely to add to existing threats and pressures and, potentially, worsen the status of a number of QIs and SCIs; contrary to the legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030. Waterford (See **Appendix H**) There are 3 no. SACs and 3 no. SPAs within 15km of Waterford City Centre (see Figure H-1) Collectively, for the QIs for which the SACs have been designated the majority are in unfavourable status (*i.e.,* inadequate or bad) based on the available Article 17 reporting. The unfavourable status is resulting from a number of threats and pressures including those associated with urban/urbanising pressures including: Residential or recreational activities and structures generating marine pollution; Sports, tourism and leisure activities; Modification of coastline, estuary and coastal conditions for development, use and protection or residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coast protection works and infrastructure); Discharges of urban waste generating pollution to surface and groundwater; Pollution to surface or ground water due to urban run-offs; Industrial sites generating pollution to surface and ground water; Modification of hydrological conditions for residential or recreational development; Modification of flooding regimes, flood protection for residential or recreational development; and Abstraction of ground and surface waters (including marine) for public water supply and recreational use. Specific commentary is also available regarding existing urban pressures and threats of some of these European sites within 15km of Waterford, including: River Barrow and Nore SAC. One of the main threats identified with respect to the SAC is high inputs of nutrients into the river system; including from several waste water treatment plants and the water quality is identified as vulnerable. Urban development is identified as a threat to alluvial woodlands and sessile oak woodlands, both QIs of the SAC.			

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

Lower River Suir SAC. One of the main activities identified adjacent to this SAC are urbanisation and the use of the River Suir channel for navigation and access to Waterford Port. The threats and pressures of urbanisation are also noted in the published Conservation Objectives for the SAC.

Tramore Dunes and Backstrand SAC. Reclamation effects to the saltmarsh habitats is identified alongside water quality issues linked to inadequate water treatment. The impacts of human usage of the dune system (e.g., trampling and erosion) are also noted. Activities that cause disturbance leading to the displacement of waterbirds are also noted.

The predicted population growth for Waterford is likely to add to existing threats and pressures and, potentially, worsen the status of a number of QIs and SCIs; contrary to the legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030.

Limerick (**Appendix I**)

There are 3 no. SACs and 2 no. SPAs within 15 km of Limerick City Centre (see Figure I-1). Collectively, for the QIs for which the SACs have been designated the majority are in unfavourable status (*i.e.,* inadequate or bad) based on the available Article 17 reporting.

The unfavourable status is resulting from a number of threats and pressures including those associated with urban/urbanising pressures including:

Water abstraction;

Modification of hydrological flow;

Pollution to surface and ground waters; including from urban runoffs, discharges from urban waste water and from contaminated/abandoned industrial sites;

Residential or recreational activities and structures generating marine pollution;

Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence and coast protection works and infrastructure);

Transport infrastructure; and

Sports, tourism and leisure activities.

Specific commentary is also available regarding existing urban pressures and threats for some of these European sites within 15 km of Limerick. In particular with respect to the Lower River Shannon SAC the urban development of Limerick city is identified as the principle threat to this SAC and historic effects on the SAC also identified.

The predicted population growth for Limerick is likely to add to existing threats and pressures and, potentially, worsen the status of a number of QIs and SCIs; contrary to the legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030.

Galway (**Appendix J**)

There are 6 no. SACs and 3no. SPAs within 15 km of Galway City Centre (See Figure J-1). Collectively, for the QIs for which the SACs have been designated the majority are in unfavourable status (*i.e.,* inadequate or bad) based on the available Article 17 reporting.

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
The unfavourable status is resulting from a number of threats and pressures including those associated with urban/urbanising pressures including: Sports, tourism and leisure activities; Water abstraction; Modification of hydrological flow; Pollution of surface and ground waters; Conversion from other land uses to housing; Invasive alien species; Construction in existing urban or recreational areas; Residential or recreational activities generating pollution; Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures); and Transport infrastructure. Specific commentary is also available regarding existing urban pressures and threats for some of these European sites within 15 km of Galway, including: Galway Bay Complex SAC. In the context of the proximity of Galway city, the shoreline and terrestrial habitats of the SAC are identified as being under specific pressure from urban expansion and recreational activities. Ross Lake and Woods SAC. Some of the QI habitats are identified as being under significant pressure from eutrophication and pollutants from municipal and industrial wastewaters are identified. The pollutant pathways through ground water are identified as a significant concern. Lough Fingall Complex SAC. Turloughs are noted with respect to nutrient enrichment and drainage issues. The predicted population growth for Galway is likely to add to existing threats and pressures and, potentially, worsen the status of a number of QIs and SCIs; contrary to the legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030.In light of the above and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO4 in the absence of mitigation**. This is particularly mindful of projected and increased level of population and employment growth identified in the NPF and given: That the Conservation Objectives of European sites seek that the favourable conservation status of QIs, and SCIs are at least maintained and, for some European Sites, restored; The current evidence in relation to the status of habitats and species in Ireland, which is generally unfavourable and, in some cases, declining further; That existing urban pressures and threats are key causes of negative/declining status; The current evidence in relation to the status of habitats and species in European sites relevant to the five Cities identified to accommodate 50% of the population growth;			

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
That existing urban pressures and threats are key causes of negative/declining status; including with respect to the European sites relevant to the five Cities identified to accommodate 50% of the population growth; Ireland's legally binding commitment to deliver improving trends in the status of habitats and species, and to show no further deterioration, in this status by 2030 as set out in the 4th National Biodiversity Action Plan; and Ireland's legally binding commitment to publish a National Restoration Plan by 2026 to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets; as committed to in Outcome 2F of the 4th National Biodiversity Action Plan			

Policy NPO5 requires the regional roles of Athlone, Sligo, Letterkenny and the Letterkenny-Derry and Drogheda-Dundalk-Newry cross-border networks to be identified in relevant Regional Spatial and Economic Strategies and Regional Enterprise Plans. The roles to be identified for these locations are not defined. This policy is unchanged from the original NPF; however there have been key changes in biodiversity legislation, policy, guidance and evidence base (as detailed below) since the original policy was published and assessed. Any actions or activities arising from identified roles could result in adverse effects on the integrity of European sites and further add to existing identified threats and pressures for these European sites. Given this uncertainty and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO5 in the absence of mitigation**.

Policy NPO6 states that accessibility from the north-west of Ireland and between centres of scale separate from Dublin will be significantly improved, focused on cities and larger regionally distributed centres and on key east-west and north-south routes. This policy is unchanged from the original NPF; however there have been key changes in biodiversity legislation, policy, guidance and evidence base (as detailed below) since the original policy was published and assessed. No specific details are included within the policy in relation to how accessibility will be significantly improved, however action and activities arising from this policy could result in adverse effects on the integrity of European sites and contributing to existing threats and pressures on these European sites. Given this uncertainty and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO6 in the absence of mitigation.**

Policy NPO7 requires the delivery of at least 40% of all new homes nationally, within the built-up footprint of existing settlements which Policy NPO8 requires the delivery of at least 50% of all new homes targeted for the five cities and their suburbs under Policy NPO4 to be delivered within their existing built-up footprints. These policies are unchanged from the original NPF; however there have been key changes in biodiversity legislation, policy, guidance and evidence base (as detailed below) since the original policy was published and assessed. These are documented above. In part these policies are positive in that it seeks to deliver a substantial proportion of new homes within the built footprint of existing settlements or within existing built-up footprints. However, for the same reasons set out with respect to Policies NPO2, NPO3, NPO5 and NPO6, these policies could result in adverse effects on the integrity of European sites and contributing to existing threats and pressures on these European sites. In addition, land within the built-up footprint of existing settlements or within existing built-up footprints can, for certain mobile QI and SCI species, provide an important ex-situ function to maintaining the favourable conservation status of such species (e.g., brent geese and urban greenspaces). Given this uncertainty and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO7 and NPO8 in the absence of mitigation**.

Policy NPO10 is a new policy included in the revision to the NPF. It requires the delivery of Transport Orientated Development (TOD) at scale at suitable locations. No specific details are included within the policy in relation to at what scale or what are defined or identified as suitable locations. In addition, it could result in some positive effects *e.g.,* promoting change from private cars to sustainable transport. However, given the uncertainty, actions and activities arising from this policy, and therefore the policy itself, could result in adverse effects on the integrity of European sites and contributing to existing threats and

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pressures on these European sites. Given the uncertainty regarding the scale and locations of TOD, and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO10 in the absence of mitigation**.

Policy NPO11 is a new policy included in the revision to the NPF. It requires that planned growth at settlement level shall be determined at development plan-making stage and addressed within the objectives of the plan. Given that the locations of this planned growth are not defined there is uncertainty regarding its effects on European sites and therefore it could result in adverse effects on the integrity of European sites and contribute to existing threats and pressures on these European sites. Given this uncertainty and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO11 in the absence of mitigation**.

Mitigation of Adverse Effects on Integrity

A suite of mitigation is necessary to address the Adverse Effects on Integrity identified from the assessment of NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11, inclusive. This includes:

Existing Commitment to Environmental Assessment. As provided for under NPO1 any plans or projects arising from the NPF will be subject to their own environmental assessment and consents/approvals consistent with legislative requirements, including the legal requirements of the EU Habitats Directive and in particular the provisions of Article 6(3) and, if necessary, 6(4) of that Directive. The environmental assessments to include, as necessary, Strategic Environmental Assessment and Environmental Impact Assessment (EIA), Appropriate Assessment (AA).

Overarching Mitigations. With respect to the Natura 2000 network, it is recognised that there is an important, existing, framework of legislation[35], policy[36] and guidance[37] applicable to the network at European and national level; a framework therefore relevant to the assessment of the draft revised NPF. That framework is based on the legal provisions of the EU Habitats Directive; and will also need to be expanded upon in due course by the provisions of the recently approved EU Nature Restoration Law. The following mitigation seeks to compliment and support that existing framework through identifying specific mitigation measures required to address the adverse effects on the integrity of European sites arising from the draft revised NPF; as identified by this NIS.

In identifying the necessary mitigation measures, cognisance has been given to ensuring that the policies of the draft revised NPF:

Do not hinder or prevent achieving or maintaining the favourable conservation status of the Natura 2000 network and its component European sites from being achieved; and

[35] e.g., EU Habitats Directive, EU Birds Directive, EU Nature Restoration Law

[36] e.g., EU Biodiversity Strategy, Ireland's 4th Biodiversity Action Plan

[37] e.g., DHLGH (2022) *Development Plans – Guidelines for Planning Authorities*. Section 9.2.

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Where possible and applicable to a plan such as the NPF, aligns with and compliments actions being taken to achieve favourable conservation status.

The European sites which form the Natura 2000 network do not function in isolation. As reflected in Article 10 of the EU Habitats Directive, the landscape features outside of European sites, such as linear features (*e.g.,* river corridors, hedgerows, stone walls) or stepping-stones (*e.g.,* woodland, waterbodies, Annex 1 habitat outside of European sites[38]) has an important function in ensuring the coherence of the Natura 2000 network; particularly with respect to the migration, dispersal and genetic exchange of wild species of community interest. Article 10 requires Member States to endeavour in their land-use planning and development policies to encourage the management of features of the landscape which are of major importance for wild fauna and flora.

In light of the above and given, in particular, the draft revised NPF includes policies for significant population and economic growth combined with the significant policies in relation to the delivery of regional renewable electricity capacity allocations for onshore wind and solar, and local Target Power Capacity allocations, there is a significant risk of policies individually and in combination with one another resulting in adverse effects on the integrity of European sites and a knock-on effect on the coherence of the Natura 2000 network. The application of the identified mitigations will address these effects and avoid compounding the declared biodiversity crisis in Ireland.

Given the potential for adverse effects, there is a need through mitigation measures to balance the risk of these effects through setting out at a national level the measures which can guide, control and manage the delivery of those policies, including any plans or projects which emerge from those policies, whilst also ensuring the integrity of European sites and the coherence of the Natura 2000 network. Such measures can then be tiered down, as relevant, to regional and local tiers of development planning.

The mitigation focuses on European sites themselves and, in reflection of Article 10 of the EU Habitats Directive, the linear features and stepping-stones outside of the European sites necessary to the function of the European sites, and their qualifying interests, and ensuring the coherence of the Natura 2000 network.

The ***overarching mitigation*** is as follows:

The principles of the mitigation hierarchy – avoid, minimise and mitigate (in that order) – are applied to their fullest extent with respect to plans and projects. This is to ensure that likely significant effects on European sites, their QIs and SCIs are avoided in the first instance and the mitigation hierarchy applied.

Development which is likely to result in the loss, fragmentation or deterioration of habitats which are qualifying interests for European sites should be avoided as a principle of plan making and projects; unless legislation dictates otherwise.

[38] e.g., Annex 1 Habitat Mapping - https://airomaps.geohive.ie/ESM/ (linked to NPWS data source linked to Article 17 reporting)

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To inform plans or projects emerging from the policies of the revised draft NPF, the corridors[39] and stepping-stones[40] outside of European sites necessary to ensure their function and collective coherence will be identified, mapped and described in terms of their relationship to the functionality of European sites and the coherence of the Natura 2000 network. This mitigation can align with or sit within existing or future Green Infrastructure Strategies and/or County Biodiversity Action Plans; which can then be reflected through the planning hierarchy at regional and local level.

Plans and projects emerging from the policies of the revised draft NPF will take account of the mapped corridors and stepping-stones outside of European sites and their function during plan preparation and project consenting.

Linked to the mapping of corridors and stepping-stones, local authorities will identify opportunities to strengthen and enhance mapped corridors and stepping-stones. Again, this mitigation can align with or sit within existing or future Green Infrastructure Strategies and/or County Biodiversity Action Plans; which can then be reflected through the planning hierarchy at regional and local level. It could also align with the response at a regional and local level with respect to the move towards no net loss of biodiversity consistent with NPO85**.**

Movement towards no net loss for development planning and policy is critical and consistent with the identified actions of the legally mandated 4th Biodiversity Action Plan. In this regard, the Department, in collaboration with relevant Government agencies, will prepare and publish a science-based methodology by which no net loss can be demonstrated for their land use planning remit. The methodology will also address viable options/mechanism to address losses where these are identified at a project level. Such options/mechanisms could include addressing losses strategically through Green Infrastructure Strategies and/or County Biodiversity Action Plans consistent with and complimenting the National Restoration Plan to be published by 2026 (in accordance with EU Nature Restoration Law) and consistent with Outcome 2F of the 4th Biodiversity Action Plan.

Policy Specific Mitigations. With respect to the majority of the NPF, the mitigations with respect to the explicit commitment to environmental assessment and the preparation and the publication of Guidance for Biodiversity and Development will be sufficient to mitigate at the national Plan level any adverse effects on the integrity of European sites arising from the revised NPF. However, for certain policies, policy specific mitigations are identified; as detailed below.

Development Phasing

While respecting the broad principles of the NPF, population and employment growth will need to initially be targeted at locations which have capacity in key services and functions necessary to enable and support that growth without contributing to existing identified threats and pressures to, and avoid adverse effects on integrity of, European sites. This targeting and prioritisation will allow time for actions to address existing issues to be addressed and to build capacity for growth where necessary; including in the key areas of urban wastewater, urban drainage and access/recreation infrastructure.

[39] *e.g.,* watercourse, hedgerows, treelines, stone walls

[40] *e.g.,* waterbodies, ex-situ foraging/refuge sites, Annex 1 habitats outside of European sites

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Water Supply and Abstraction

Uisce Éireann, as Ireland's national public water services provider, has published for consultation its draft Water Services Strategic Plan 2050 (WSSP 2050); which sets out its objectives and the means by which it aims to achieve them in the context of the significant challenges that are likely to be faced over the next 25 years. The draft Plan was published in May 2024 and consultation will run until July 2024. The WSSP 2050 is informed by a SEA and NIS. The strategic objectives of the WSSP 2050 are:

Safe and reliable drinking water;
Protecting and restoring the environment;
Sustainable services fit for the future; and
Supporting customers, communities and the economy.

The strategic objectives are underpinned by strategic aims including delivering reliable water supplies, protecting the water environment and contributing to meeting the requirements of the Water Framework Directive. These strategic aims are themselves underpinned by 35 key actions; which includes a commitment to review Uisce Éireann's first National Water Resources Plan (NWRP) which was delivered under the current Water Services Strategic Plan which this draft will replace once approved. Uisce Éireann state that the WSSP 2050 will be reviewed every five years; in part to enable it to adapt to changing circumstances and evolving needs. The draft NIS of the WSSP 2050 concludes that, subject to the mitigation proposed, the implementation of the WSSP 2050 will have no adverse effects on any European sites, either alone or in combination with other plans and projects. WSSP 2050 should be implemented in full once approved and the AA process for it has concluded.

Urban Wastewater[41]

The implementation of the Urban Wastewater Treatment Directive has led to a significant reduction in nutrients and organic material polluting surface waters. However, it is understood that Ireland is still not fully compliant with this Directive; which could also be contributing the existing threats and pressures on European sites as documented in Article 17 reports and also EPA water quality reports. These threats and pressures could be exacerbated further by the predicted population and employment growth identified by the NPF through policies NPO1 to NPO4, inclusive.

Mitigation actions include putting in place or upgrading deficient wastewater treatment infrastructure and getting the best performance from existing systems by improving how they are operated and maintained. Such mitigations require investment and substantial work is needed to improve the Urban Wastewater network in Ireland and it is recognised by the EPA that it will take many years of sustained investment to bring all treatment infrastructure up to standard and also to provide for future needs. The EPA estimates that it will take a multi-billion euro investment and, based on current investment levels, at least two decades to get all treatment systems up to standard. In 2022, the EPA identified 89 priority areas where action is needed to protect the environment and identifies that Uisce Éireann's next capital investment plan (2025 to 2029) has the potential to deliver significant benefits to our environment and that it is

[41] Mitigation identified with reference to: EPA (May 2024) *Impacts of Pressures on Water Quality – Urban Wastewater.* Catchment Science & Management Unit

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critical that this investment is directed to the priority areas. The EPA also notes that additional actions are highlighted in the third River Basin Management Plan to address urban wastewater pressures.

Given that there are existing threats and pressures on European sites from urban wastewater discharges, including in the cities and regions where population and employment growth will be targeted plus the significant potential that the increased predicted population and employment growth to add to these existing pressures, the following mitigation measures are identified linked to the *Development Phasing* mitigation set out above:

The delivery of putting in place or upgrading deficient wastewater treatment infrastructure and getting the best performance from existing systems; with a key focus on the identified priority areas and provision for increasing investment levels commensurate with the delivery. This will assist in addressing existing threats and pressures on European sites; including with respect to where planned population and employment growth will be targeted;

Identify the actions and investment necessary to build capacity into the urban wastewater network commensurate with the predicted, planned and phased population and employment growth to ensure continued conformance with the Urban Wastewater Treatment Directive and to ensure that existing threats and pressures are not exacerbated and to ensure that no new threats and pressures emerge; and

RSESs, as then tiered down into CDPs, will need to ensure that the urban wastewater infrastructure necessary to accommodate the planned and phased population and employment growth is developed in parallel with the delivery of (a) and (b) right through to 2040.

Failure to address existing threats and pressures from urban wastewater discharges and to build capacity for planned future population and employment growth will result in significant risks at the project consenting stage for those projects reliant on that capacity; particularly in relation to ensuring that the Appropriate Assessment process can be satisfactorily concluded.

Urban Drainage

Pollution from urban drainage (*e.g.,* nutrients, sediments, hydrocarbons, historic contamination) is identified as an existing threat and pressure to European sites. Policies should be embedded into RSESs and tiered down to CDP for any development seeking consent to ensure, through its design and operation, that it will not contribute additional threats and pressures from urban drainage pollution and, where possible, address any existing potentially contributing threats and pressures through that development; particularly where historic contamination may be present on previously developed land or where drainage features have been historically culverted (*e.g.* opportunities for daylighting). The design and operation of development should apply Sustainable Urban Drainage Systems (SuDS) principles and incorporate urban drainage Nature Based Solutions (NbS) with reference to up-to-date guidance

Recreational Infrastructure and Access Management

Development associated with leisure and recreation activities of the population alongside other more diffuse recreational activities *e.g.,* walking, cycling etc. are identified as existing threats and pressures to European sites; including in those cities and regions where the majority of the planned population and employment growth will be targeted. To inform the RSES, a Regional Access and Recreation Strategy (RARS), with reference to European Sites and their qualifying interests, will need to be prepared to identify the existing recreation infrastructure, identify existing threats, pressures or management issues relating to this infrastructure (including but not exclusively related to European sites) and identify actions and funding necessary to address existing threats,

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
pressures and management issues in addition to ensuring that sufficient formal and informal greenspace (including natural and accessible green space) is planned and delivered to accommodate the recreational and access needs of planned population and employment growth identified within the revised NPF. The RARSs will then need to be tiered down to CDP in terms of action and delivery. In relation to specific mitigation and through their RARS, the RSES for the five Cities will need to take account in particular of the following: Dublin: Recreation and access management issues related to the Wicklow Mountains SAC and SPA and European sites associated with the coastal areas; Cork: Recreation and access management related to Great Island Channel SAC and Cork Harbour SPA Limerick: Recreation and access management issues related to the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA; particularly as it relates to the urban pressure impacts and effects of Limerick City and its environs in light of its planned population and economic growth. Galway: Recreation and access management issues; particularly with respect to those European sites within or adjacent to the urban areas of Galway City and its environs in light of its planned population growth and mindful of the identified pressures of those European sites in Galway Bay. Waterford: Recreation and access management issues related to European sites; particularly those identified with respect to Lower River Suite SAC and the European sites at Tramore. **Subject to the application of the above mitigation, it is concluded that policies NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**			

6.4.4 Chapter 3- Effective Regional Development

No NPOs in this Chapter of the revised NPF.

6.4.5 Chapter 4- Making Stronger Urban Places

NPO 2018 Objective		2024 Objective	Assessment	Mitigation Required?
12	Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.	No change.	No adverse effects on the integrity of European sites.	No
13	Develop cities and towns of sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment and prosperity.	No change.	No adverse effects on the integrity of European sites.	No
14	Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets, that can accommodate changing roles and functions, increased residential population and employment activity and enhanced levels of amenity and design quality, in order to sustainably influence and support their surrounding area	Regenerate and rejuvenate cities, towns and villages of all types and scale as environmental assets that can accommodate changing roles and functions, increased residential population and employment activity, enhanced levels of amenity and design and placemaking quality, in order to sustainably influence and support their surrounding area to ensure progress toward national achievement of the UN Sustainable Development Goals.	Adverse effects on the integrity of European sites.	Yes
15	Apply a tailored approach to urban development, that will be linked to the Rural and Urban Regeneration and Development Fund, with a particular focus on:- ○ Dublin; ○ the four Cities of Cork, Limerick, Galway and Waterford; ○ Strengthening Ireland's overall urban structure, particularly in the Northern and Western and Midland Regions, to include the regional centres of Sligo and Letterkenny in the North-West, Athlone in the Midlands and cross-border networks focused on the Letterkenny-Derry North-West Gateway Initiative and Drogheda-Dundalk-Newry on the Dublin-Belfast corridor; ○ Encouraging population growth in strong employment and service centres of all sizes, supported by employment growth;	Apply a tailored approach to urban development, ~~that will be~~ linked to the Rural and Urban Regeneration and Development Funds, with a particular focus on: ○ Dublin; ○ The four Cities of Cork, Limerick, Galway and Waterford; ○ Strengthening Ireland's overall urban structure, particularly in the Northern and Western and Midland Regions, to include the regional centres of Sligo and Letterkenny in the North-West, Athlone in the Midlands and cross-border networks focused on the Letterkenny-Derry North-West ~~Gateway Initiative~~ City Region and Drogheda-Dundalk-Newry on the Dublin-Belfast corridor;	Adverse effects on the integrity of European sites.	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	○ Reversing the stagnation or decline of many smaller urban centres, by identifying and establishing new roles and functions and enhancement of local infrastructure and amenities; ○ Addressing the legacy of rapid unplanned growth, by facilitating amenities and services catch-up, jobs and/or improved sustainable transport links to the cities, together with a slower rate of population growth in recently expanded commuter settlements of all sizes; ○ In more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth	○ Encouraging population growth in strong employment and service centres of all sizes, supported by employment growth; ○ Reversing the stagnation or decline of many smaller urban centres, by identifying and establishing new roles and functions and enhancement of local infrastructure and amenities; ○ Addressing the legacy of rapid unplanned growth, by facilitating amenities and services catch-up, jobs and/or improved sustainable transport links to the cities, together with a slower rate of population growth in recently expanded commuter settlements of all sizes; ○ In more self-contained settlements of all sizes, supporting a continuation of balanced population and employment growth.		
16	To ensure that the targeted pattern of population growth of Ireland's cities to 2040 is in accordance with the targets set out in Table 4.1	To ensure that the targeted pattern of population growth of Ireland's cities to 2040 is in accordance with the targets set out in Table 4.1.	Adverse effects on the integrity of European sites.	Yes

<table>
<tr><th>NPO 2018 Objective</th><th>2024 Objective</th><th>Assessment</th><th>Mitigation Required?</th></tr>
<tr>
<td></td>
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<table>
<tr><th>City</th><th>Population 2016</th><th colspan="2">Population Growth to 2040[27]</th><th>Minimum Target Population 2040</th></tr>
<tr><th></th><th></th><th>% Range</th><th>People</th><th></th></tr>
<tr><td>Dublin - City and Suburbs</td><td>1,173,000</td><td>20-25%</td><td>235,000 - 293,000</td><td>1,408,000</td></tr>
<tr><td>Cork - City and Suburbs</td><td>209,000</td><td>50-60%</td><td>105,000 - 125,000</td><td>314,000</td></tr>
<tr><td>Limerick - City and Suburbs</td><td>94,000</td><td>50-60%</td><td>47,000 - 56,000</td><td>141,000</td></tr>
<tr><td>Galway - City and Suburbs</td><td>80,000</td><td>50-60%</td><td>40,000 - 48,000</td><td>120,000</td></tr>
<tr><td>Waterford - City and Suburbs</td><td>54,000</td><td>50-60%</td><td>27,000 - 32,000</td><td>81,000</td></tr>
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<td>
<table>
<tr><th>City</th><th>Population 2022</th><th>2018 NPF</th><th colspan="2">Population Growth to 2040[20]</th><th>Minimum Target</th></tr>
<tr><th></th><th></th><th>% Range 2016-2040</th><th>% Range 2022-2040</th><th>People</th><th></th></tr>
<tr><td>Dublin - City and Suburbs</td><td>1,263,000</td><td>20-25%</td><td>20-25%</td><td>296,000</td><td>1,560,000</td></tr>
<tr><td>Cork - City and Suburbs</td><td>223,000</td><td>50-60%</td><td>40%</td><td>96,000</td><td>320,000</td></tr>
<tr><td>Limerick - City and Suburbs</td><td>102,000</td><td>50-60%</td><td>40%</td><td>44,000</td><td>150,000</td></tr>
<tr><td>Galway - City and Suburbs</td><td>86,000</td><td></td><td>40%</td><td>36,000</td><td>122,000</td></tr>
<tr><td>Waterford - City and Suburbs</td><td>60,000</td><td></td><td>40%</td><td>28,000</td><td>88,000</td></tr>
</table>
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<td>17</td>
<td>In each Regional Assembly area, settlements not identified in Policy 4 or 5 of this Framework, may be identified for significant (i.e., 30% or more above 2016 population levels) rates of population growth at regional and local planning stages, provided this is subject to:

○ Agreement (regional assembly, metropolitan area and/or local authority as appropriate);

○ Balance with strategies for other urban and rural areas (regional assembly, metropolitan area and/or local authority as appropriate), which means that the totality of planned population growth has to be in line with the overall growth target.; and</td>
<td>In each Regional Assembly area, settlements not identified in Policy 4 or 5 of this Framework, may be identified for significant (i.e., 30% or more above 2022 population levels) rates of population growth at regional and local planning stages, provided this is subject to:

○ Agreement (regional assembly, metropolitan area and/or local authority as appropriate);

○ Balance with strategies for other urban and rural areas (regional assembly, metropolitan area and/or local authority as appropriate), which means that the totality of planned population</td>
<td>Adverse effects on the integrity of European sites.</td>
<td>Yes</td>
</tr>
</table>

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	○ A co-ordinated strategy that ensures alignment with investment in infrastructure and the provision of employment, together with supporting amenities and services.	growth has to be in line with the overall growth target; and ○ A co-ordinated strategy that ensures alignment with the delivery of investment in infrastructure and the provision of employment, together with supporting amenities and services.		
18	Regional and Local Authorities to identify and quantify locations for strategic employment development in the cities identified in Table 4.1.	No change.	Adverse effects on the integrity of European sites.	Yes
19	Regional and Local Authorities to identify and quantify locations for strategic employment development, where suitable, in urban and rural areas generally.	No change.	Adverse effects on the integrity of European sites.	Yes
20	In meeting urban development requirements, there will be a presumption in favour of development that can encourage more people and generate more jobs and activity within existing cities, towns and villages, subject to development meeting appropriate planning standards and achieving targeted growth.	No change.	Adverse effects on the integrity of European sites.	Yes
21	The Government will establish a National Regeneration and Development Agency to work with local authorities, other public bodies and capital spending departments and agencies to co-ordinate and secure the best use of public lands, investment required within the capital envelopes provided in the National Development Plan and to drive the renewal of strategic areas not being utilised to their full potential. The Government will consider how best to make State lands available to such a body to kick-start its development role and to legislate for enhanced compulsory purchase powers to ensure that the necessary transformation of the places most in need of regeneration can take place more swiftly and effectively.	The Government will support the LDA, in association with Local Authorities, to fulfil its statutory mandate to deliver a significant number of homes on State lands in major mixed tenure developments, with a particular focus on brownfield and infill urban sites in the five main cities and regional centres as a priority.	Adverse effects on the integrity of European sites.	Yes

NPO 2018 Objective		2024 Objective	Assessment	Mitigation Required?
22	In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high-quality outcomes in order to achieve targeted growth. ~~These standards will be subject to a range of tolerance that enables alternative solutions to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected.~~	In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high-quality outcomes in order to achieve targeted growth.	No adverse effects on the integrity of European sites.	No

Assessment of Adverse Effects on Integrity

Adverse effects on integrity with respect to NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21. Mitigations required to address these effects.

Policy NPO14 is a statement regarding the regeneration and rejuvenation of cities, towns and villages of all types and scales, including their need to accommodate increased residential populations and employment activity. As assessed for the policies set out under **Chapter 2**, the planned population and employment increases will result in adverse effects on the integrity of European sites in the absence of mitigation. In light of this **Policy NPO14 will also result in adverse effects** on the integrity of European sites, in the absence of mitigation, for the same rationale as set out for the policies assessed under **Chapter 2**.

Policy NPO15 seeks to apply a tailored approach to urban development linked to the Rural and Urban Regeneration Funds. It states that particular focus for this tailored approach are the five cities already identified in NPO4, the regions identified in NPO5 in addition to other centres which are not spatially defined by NPO15. As assessed for the policies set out under **Chapter 2** (including NPO4 and NPO5), the planned population and employment increases will result in adverse effects on the integrity of European sites. **Policy NPO15 will therefore result in adverse effects** on the integrity of European sites, in the absence of mitigation, for the same rationale as set out for the policies assessed under **Chapter 2**.

Policy NPO16 sets targets for the population growth of Ireland's cities; the population growth figures updated and increased compared to those assessed within the original NPF. This expands upon the growth identified in the policies of **Chapter 2**, which includes Policy NPO4 that targets half of the future population and employment growth to these cities. Similarly, to policies of **Chapter 2**,and specifically, Policy NPO4, **Policy NPO16 will result in adverse effects** on the integrity of European sites in the absence of mitigation.

Policy NPO17 allows each Regional Assembly Area to identify additional settlements, beyond those identified in Policy NPO4 and NPO5, for significant rates of population growth at regional and local planning stages subject to three provisions as detailed within the policy. The spatial location of these additional settlements is not identified within the NPF, and it is a responsibility for each Regional Assembly Area to identify these. Given that this policy is identifying how the planned population growth identified in **Chapter 2** will be delivered and mindful that Policy NPO3 was identified as resulting in adverse effects on the integrity of European sites, it is considered that **Policy NPO17 will also result in adverse effects** for the same reasons as stated for the policies of **Chapter 2** and, specifically, Policy NPO3, in the absence of mitigation.

Policies NPO18 and **NPO19** requires regional and local authorities to identify and quantify locations for strategic employment development in "cities" and "urban and rural areas", respectively. The policy does not identify any specific spatial locations other than referring to cities, urban and rural areas. These policies are unchanged from the original NPF; however there have been key changes in biodiversity legislation, policy, guidance and evidence base (as detailed in the assessment of **Chapter 2** policies) since the original policy was published and assessed. Any actions or activities arising from identified roles could result in adverse effects on the integrity of European sites and further add to existing identified threats and pressures for these European sites. In addition, given that there is uncertainty regarding the specific locations which will be identified for strategic employment, this could also result in adverse effects on the integrity of European sites. Given these changes, the uncertainty and in the absence of mitigation, **it is concluded that adverse effects on European sites will occur due to NPO18 and NPO19 in the absence of mitigation**.

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO20 is unchanged since the original NPF. It makes a presumption in favour of development that can encourage more people and generate more jobs and activity within existing cities, towns and villages. This policy is subject to development meeting "appropriate planning standards"; which are undefined by the policy however it assumes that it includes the completion of any necessary environmental assessments to inform the consenting of any such development. However, without "appropriate planning standards" being defined there is an uncertainty which could result in adverse effects on European sites for development that would otherwise be presumed to be favourable. In the absence of this certainty, **adverse effects on the integrity of European sites could occur** and therefore mitigations are necessary to address this policy.

Policy NPO21 states Government support to the LDA, in association with Local Authorities to fulfil its statutory mandate regarding the delivery of new homes. This expands upon the growth identified in the policies of **Chapter 2**. Similarly, to policies of Chapter 3 Policy NPO21 **will result in adverse effects on the integrity of European sites in the absence of mitigation**. The mitigations set out in response to the policies in Chapter 3 are also applicable in relation to mitigating any adverse effects arising from Policy NPO21.

No adverse effects on integrity with respect to NPO12, NPO13 and NPO22.

Policy NPO12 is a statement on the quality of the urban places to be created through the revised NPF. The application of this policy will not result in any adverse effects on the integrity of European sites in its own right. No mitigation is necessary.

Policy NPO13 is a general statement on the scale and quality of cities and towns to be developed through the revised NPF. The application of this policy will not result in any adverse effects on the integrity of European sites in its own right. No mitigation is necessary.

Policy NPO22 is neutral policy with respect to European sites and will not, in its own right, result in adverse effects on the integrity of European sites since it provides a statement regarding the application of planning and related standard to ensure well-designed, high-quality outcomes.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations.

Subject to the application of the above mitigation, it is concluded that policies NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21 will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.

6.4.6 Chapter 5 - Planning for Diverse and Rural Places

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
23	Protect and promote the sense of place and culture and the quality, character and distinctiveness of the Irish rural landscape that make Ireland's rural areas authentic and attractive as places to live, work and visit. ~~The Action Plan for Rural Development will support this objective up to 2020; thereafter a review of the Action Plan will be undertaken to ensure continued alignment and consistency with the National Policy Objectives of this Framework.~~	Protect and promote the sense of place and culture and the quality, character and distinctiveness of the Irish rural landscape including island communities that make Ireland's rural areas authentic and attractive as places to live, work and visit. *Any successor policy documents relating to national policy for rural areas and the islands will ensure continued alignment and consistency with the National Policy Objectives of this Framework.*	No adverse effects on the integrity of European sites	No
24	Support the sustainable development of rural areas by encouraging growth and arresting decline in areas that have experienced low population growth or decline in recent decades and by managing the growth of areas that are under strong urban influence to avoid over-development, while sustaining vibrant rural communities	No change	Potential for adverse effects on the integrity of European sites	Yes
25	Target the reversal of rural decline in the core of small towns and villages through sustainable targeted measures that address vacant premises and deliver sustainable reuse and regeneration outcomes[28].	No change to objective but additional text added as footnote: "Refer to Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities"	No adverse effects on the integrity of European sites	No
26	Enhance, integrate and protect the special physical, social, economic and cultural value of built heritage assets through appropriate and sensitive use now and for future generations.	Enhance, integrate and protect the special physical, environmental, economic and cultural value of built heritage assets, including streetscapes, vernacular dwellings and other historic buildings and monuments, through appropriate and sensitive investment and conservation.	Potential for adverse effects on the integrity of European sites	Yes
27	Support the proportionate growth of and appropriately designed development in rural towns that will contribute to their regeneration and renewal, including interventions in	Continue to support the proportionate growth of and appropriately designed development in rural towns that will contribute to their regeneration and renewal,	Potential for adverse effects on	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
	the public realm, the provision of amenities, the acquisition of sites and the provision of services.	including interventions in the public realm, the provision of amenities, the acquisition of sites and the provision of services.	the integrity of European sites	
28	Develop a programme for 'new homes in small towns and villages' with local authorities, public infrastructure agencies such as Irish Water and local communities to provide serviced sites with appropriate infrastructure to attract people to build their own homes and live in small towns and villages	Continue to support programmes for 'new homes in small towns and villages' with local authorities, public infrastructure agencies such as Uisce Éireann and local communities to provide serviced sites with appropriate infrastructure to attract people to build their own homes and live in small towns and villages.	Potential for adverse effects on the integrity of European sites	Yes
29	Ensure, in providing for the development of rural housing, that a distinction is made between areas under urban influence, i.e., within the commuter catchment of cities and large towns and centres of employment, and elsewhere: In rural areas under urban influence, facilitate the provision of single housing in the countryside based on the core consideration of demonstrable economic or social need to live in a rural area and siting and design criteria for rural housing in statutory guidelines and plans, having regard to the viability of smaller towns and rural settlements; In rural areas elsewhere, facilitate the provision of single housing in the countryside based on siting and design criteria for rural housing in statutory guidelines and plans, having regard to the viability of smaller towns and rural settlements.	No change	Potential for adverse effects on the integrity of European sites	Yes
30	Project the need for single housing in the countryside through the local authority's overall Housing Need	No change	No adverse effects on the integrity of European sites	No

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
	Demand Assessment (HNDA) tool and county development plan core strategy processes			
31	Facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bioeconomy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.	Facilitate the development of the rural economy, in a manner consistent with the national climate objective, through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting biodiversity and the natural landscape and built heritage which are vital to rural tourism.	Adverse effects on the integrity of European sites	Yes
32	Support and facilitate delivery of the National Broadband Plan as a means of developing further opportunities for enterprise, employment, education, innovation and skills development for those who live and work in rural areas.	No change.	No adverse effects on the Integrity of European sites	No
33	Enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the diversification of the rural economy into new sectors and services, including ICT-based industries and those addressing climate change and sustainability.	No change	Potential for adverse effects on the integrity of European sites	Yes
34	N/A	**NEW:** Support the agri-food industry in promoting Ireland's continued food security in a manner that ensures economic, environmental, and social sustainability while ensuring progress in achieving	Adverse effects on the integrity of European Sites	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
		targets in the National Climate Action Plan and the River Basin Management Plan.		
35	Facilitate tourism development and in particular a National Greenways, Blueways and Peatways Strategy, which prioritises projects on the basis of achieving maximum impact and connectivity at national and regional level.	Continue to facilitate tourism development and in particular the Strategy for the Future Development of National and Regional Greenways, and a Blueways and Peatways Strategy, which prioritises projects on the basis of their environmental sustainability, achieving maximum impact and connectivity at national and regional level, while ensuring their development is compliant with the National Biodiversity Action Plan, the national climate change objective and requirements for environmental assessments.	Adverse effects on the integrity of European Sites	Yes
36	The Department of Rural and Community Development, the Department of Agriculture, Food and the Marine, and other relevant Departments and Agencies will continue to invest in rural Ireland, including through the Rural Regeneration and Development Fund, and will work together to establish a mechanism to co-ordinate structures for funding rural development to align with other national strategies.	No change.	No adverse effects on the integrity of European sites	No

Assessment of Adverse Effects on Integrity

Adverse effects on integrity with respect to NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35. Mitigations required to address these effects.

Policy NPO24 supports the sustainable development of rural areas. This is welcome, however rural areas include European sites and the development of rural areas can result in the potential for adverse effects on the integrity of European sites either directly or indirectly *e.g.,* waste water infrastructure which has not been upgraded resulting in pollution. **Policy NPO24 has the potential to result in adverse effects on the integrity of European sites** in the absence of mitigation.

Policy NPO26 relates to built heritage assets and provides policy in relation to the enhancement, integration and protection of the special physical, environmental, economic and cultural value of these assets. The revised wording to recognise that such assets can have special environmental values is welcome. However, such assets could be designated as European sites in their own right (*e.g.,* structures designated as Special Areas of Conservation for Lesser Horseshoe Bats *Rhinolophus hipposideros*) or be located within or be connect to European sites. Therefore, any activities to "enhance, integrate and

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

protect" the asset(s) could result in adverse effects on the integrity of European sites. **Policy NPO26 is therefore capable of resulting in adverse effects on the integrity of European sites in the absence of mitigation**.

Policies NPO27 and **NPO28** seek to support the proportionate grown of rural towns (including interventions in the public realm, the provision of amenities, the acquisition of sites and the provision of services) and continued support for programmes for "new homes in small towns and villages"; respectively. Such support will lead to plans or projects which could result in adverse effects on the integrity of European sites. **Policies NPO27 and NPO28 are therefore capable of resulting in adverse effects on the integrity of European sites in the absence of mitigation**.

Policy NPO29 relates to the provision of single housing in the countryside. Such housing could result in adverse effects on the integrity of European sites depending on their location and context to European sites. In addition, the activities associated with such dwellings (*e.g.,* dependence on domestic waste water systems where they are not connected to the main sewer). Discharges from domestic waste water treatment systems have been identified by the EPA as the sixth most prevalent significant pressures on water quality in Ireland; impacting on approximately 9% of all waterbodies "at risk" of not achieving their environmental objective under the Water Framework Directive[42]. In total, the EPA report identified 148 waterbodies that have a significant impact from domestic wastewater discharges; of these 78% related to single house discharges. The most recent inspections of domestic waste water treatment systems (2022) showed that half of those inspected failed and 20% were a risk to the environment (in addition to human health). EPA identifies that such systems can negatively impact water quality when they are located in unsuitable areas and/or when they fail to operate satisfactorily and/or not adequately maintained; which can lead to nutrient and organic pollution to surface and ground waters. Such surface and ground waters will supply and maintain European sites. In light of the above, **Policy NPO29 is capable of resulting in adverse effects on the integrity of European sites in the absence of mitigation**.

Policy NPO31 seeks to facilitate the development of the rural economy with emphasis on the agriculture, food sector, forestry, fishing, aquaculture, energy, extractive industries, the bioeconomy and diversification into alternative on-farm and off-farm activities. In the context of what the policy facilitates, it also notes the importance of maintaining and protecting biodiversity and the natural landscape. With reference to the most recent Article 17 reporting, 85% of all habitats are in unfavourable status with 46% demonstrating ongoing decline. The most frequent pressures recorded in habitats relate to agriculture. Over 70% of habitats are impacted by pressures relating to agricultural practices and the pressure is ranked as High importance in more than 50% of habitats. Forestry and extraction of resources each also account for over 30% of the habitats impacted. The facilitation provided by this policy, irrespective of the note given to the importance of maintaining and protecting biodiversity, will result in plans of projects which are capable of causing adverse effects to the integrity of European sites and therefore mitigation of these effects is necessary. Therefore, **Policy NPO31 will result in adverse effects on the integrity of European sites in the absence of mitigation**.

Policy NPO33 is seeking to enhance the competitiveness of rural areas through supporting innovation in the development of the rural economy. The policy identifies particular sectors identified include ICT based industries and those addressing climate change and sustainability. No particular plans or projects are identified. This policy will result in new plans and projects to deliver on enhanced competitiveness, and these could result in adverse effects on the integrity of

[42] EPA (May 2024) *Impacts of Pressures on Water Quality – Domestic Wastewater Treatment Systems*. Catchment Science and Management Unit - https://www.catchments.ie/significant-pressures-domestic-waste-water/

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

European sites depending on their location, nature and associated activities both in terms of construction and operation. Therefore, **Policy NPO33 is capable of resulting in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO34 seeks to support the agri-food industry in a manner that ensures economic, environmental and social sustainability while progressing towards achievement of targets set out in National Climate Action Plan and River Basin Management Plan. This is a new policy included in the revised NPF. With reference to the most recent Article 17 reporting; this indicates that agriculture is significant threat and pressure on European sites and their designated QI and SCI habitats and species. 85% of all habitats are in unfavourable status with 46% demonstrating ongoing decline. The most frequent pressures recorded in habitats relate to agriculture. Over 70% of habitats are impacted by pressures relating to agricultural practices and the pressure is ranked as High importance in more than 50% of habitats. The most frequent issues relate to under/over/inappropriate grazing, abandonment of grassland management, diffuse pollution to surface or ground waters and agricultural activities generating air pollution with nitrogen deposition particularly identified, In addition to the Article 17 reporting, the EPA has reported that agriculture is identified as the most prevalent significant pressure to water quality in Ireland; impacting over 1,000 waterbodies or approximately 60% of all waterbodies “at risk” of not achieving their environmental objective under the Water Framework Directive. Many of these waterbodies would also be designated in whole or part as European sites due to the QI and SCI habitats and species which they support. Given the threat and pressure that agriculture is to European sites, it is considered that the policy support for the agri-food industry is likely to result in adverse effects on the integrity of European sites and further compound the existing unfavourable conservation status, including further declines in status, of European sites. Therefore, **Policy NPO34 will result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO35 is a revision of the original NPF policy. It provides continued policy support to facilitate tourism development; with particular reference to the Strategy for the Future Development of National and Regional Greenways and a Blueways and Peatways Strategy. Given it is a national policy it includes no spatial locations for any of the plans or project which will be facilitated by this policy. The policy also aims to ensure that the development of projects would be prioritized on the basis of their environmental sustainability and will have to be compliant with the National Biodiversity Action Plan, the national climate change objective and requirements for environmental assessments, which is positive. However, notwithstanding this, given the uncertainty in relation to spatial location, there is potential for this policy to facilitate plans or projects which could result in adverse effects on the integrity of European sites; particularly given that some of the plans or projects may be facilitating tourism development, including greenways, blueways and peatways through, adjacent or connected to European sites resulting in direct impacts (*e.g.* habitat loss or deterioration) and indirect impacts such as new or increased recreational disturbance in areas currently not subject to such disturbances. **Policy NPO35 will result in adverse effects on the integrity of European sites in the absence of mitigation.**

No adverse effects on integrity with respect to NPO23, NPO25, NPO30, NPO32 and NPO36

Policy NPO23 seeks to promote the sense of place, culture and the quality, character and distinctiveness of the Irish rural areas, including island communities. Generally, this policy is at least neutral with respect to the integrity of European sites. Additionally, Policy NPO23 states that any successor policy documents relating to national policy for rural areas and the islands will need to be aligned and consistent with the NPOs of the revised NPF. The NPF and its NPOs will have been subject to Appropriate Assessment and, as ultimately concluded by this document, will not result in adverse effects on the integrity of European sites subject to the application of the mitigations identified for certain NPOs. Therefore, including within the wording of Policy NPO23 the requirement for consistency and alignment with the NPOs will also include the implementation of the mitigations which have been identified therefore providing further surety that no adverse effects on integrity of European sites will occur.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO25 seeks to reverse rural decline in the core towns and villages through targeted measures that address vacant premises. This policy remains unchanged since the original NPF, however the recently published Sustainable Residential Development and Compact Settlement Guidelines for Planning Authorities have been added as a footnote. It is not considered that the policy, which seeks to deliver the sustainable reuse of vacant premises, will result in an adverse effect on the integrity of European sites in its own right. Furthermore, the reference to the recently published Guidelines provides increased certainty over this conclusion given that the Guidelines have been subject to Appropriate Assessment in their own right and includes biodiversity measures/actions including with respect to Appropriate Assessment of projects (*e.g., Urban Design and Quality Placemaking Process; Analysis and Appraisal*).

Policy NPO30 only identifies how the projected need for single housing in the countryside will be identified. In itself, this policy will not result in any adverse effects on the integrity of any European sites since it is only identifying the mechanism by which such need is identified.

Policy NPO32 supports and facilitates the delivery of the National Broadband Plan. The National Broadband Plan was subject to Appropriate Assessment, including the completion of Stage 1 (screening) and Stage 2 (NIS). The NIS concluded no adverse effect on the integrity of European sites subject to the implementation of the project-specific mitigations identified. These delivery of these mitigations are integral to the support and facilitation provided by this NPF policy and therefore no additional adverse effects will arise other than those already identified and addressed through mitigation.

Policy NPO36 relates to the funding mechanisms for investing in rural Ireland. These funding mechanisms in their own right will not result in any adverse effects in the integrity of European sites.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations, and (iii) the policy specific mitigations. Additional policy specific mitigations are included to address certain policies of Chapter 5 where mitigations (i) to (iii), inclusive, are not considered sufficient to mitigate for adverse effects.

Additional Policy Specific Mitigation for Chapter 5

Agri-food Industry

The following policy-specific mitigation measures are identified to address the potential adverse effects which will arise through the support provided by Policy NPO34:

Any agriculture-based development seeking planning consent which includes, results in or supports activities that will result in any increase in point-source or diffuse pollution in sub-catchments within or upstream of any European site(s) that support habitats or species which are in unfavourable conservation status due to agricultural threats or pressures, or within sub-catchments identified “at risk” due to water quality threats and pressures relating to agriculture or other

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
source[43], should be avoided. If avoidance is not possible then any development consent should provide a science-based justification as to why the development should be permitted alongside any mitigation or compensation necessary to address adverse effects consistent with Article 6(3) and 6(4) of the EU Habitats Directive. Any agriculture development seeking consent for development which includes, will result in or supports activities that can result in point-source or diffuse pollution will be required to demonstrate that it will not either alone or in combination with other projects result in any new or increased point-source or diffuse pollution of surface or groundwater; particularly if those surface or groundwater systems can influence the current or future conservation status of any European sites. Any agriculture development seeking consent for development which will result or support activities that can result in nitrogen air pollution will be required to demonstrate that it will not either alone or in combination with other projects result in any new or increased nitrogen air pollution; particularly if that pollution will adversely affect sensitive habitats or species, including those within European sites. **Subject to the application of the above mitigation, it is concluded that policies NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**			

6.4.7 Chapter 6- People, Homes and Community

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
37	Support the objectives of public health policy including Healthy Ireland and the National Physical Activity Plan, though integrating such policies, where appropriate and at the applicable scale, with planning policy.	Support the objectives of public health policy including the Healthy Ireland Framework and the National Physical Activity Plan, though integrating such policies, where appropriate and at the applicable scale, with planning policy.	No adverse effects on the integrity European sites	No

[43] EPA Maps – Significant Pressures Datasets

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
38	Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages	No change	No adverse effects on the integrity European sites	No
39	Plan for a more diverse and socially inclusive society that targets equality of opportunity and a better quality of life for all citizens, through improved integration and greater accessibility in the delivery of sustainable communities and the provision of associated services.	No change	No adverse effects on the integrity European sites	No
40	Support the implementation of language plans in Gaeltacht Language Planning Areas, Gaeltacht Service Towns and Irish Language Networks.	No change	No adverse effects on the integrity European sites	No
41	Local planning, housing, transport/accessibility and leisure policies will be developed with a focus on meeting the needs and opportunities of an ageing population along with the inclusion of specific projections, supported by clear proposals in respect of ageing communities as part of the core strategy of city and county development plans.	Local planning, housing, health facilities and services, transport/ accessibility and leisure policies will be developed with a focus on meeting the needs and opportunities of an ageing population along with the inclusion of specific projections, supported by clear proposals in respect of ageing communities as part of the core strategy of city and county development plans.	No adverse effects on the integrity European sites	No
42	Prioritise the alignment of targeted and planned population and employment growth with investment in:- • A childcare/ECCE planning function, for monitoring, analysis and forecasting of investment needs, including identification of regional priorities; • The provision of childcare facilities and new and refurbished schools on well-located sites within or close to existing built-up areas, that meet the diverse needs of local populations;	Prioritise the alignment of targeted and planned population and employment growth with investment in: • A childcare/ECCE planning function, for monitoring, analysis and forecasting of investment needs, including identification of regional priorities; • The provision and timely delivery of childcare facilities and new and refurbished schools on well-located sites within or close to existing built-up areas, including in support of infill and brownfield development, that meet the diverse needs of local populations and act as a key enabler for housing	Potential for adverse effects on the integrity of European sites	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
	• The expansion and consolidation of Higher Education facilities, particularly where this will contribute to wider regional development, and • Programmes for life-long learning, especially in areas of higher education and further education and training where skills gaps are identified.	development, thereby contributing to the development of sustainable communities; • The expansion and consolidation of Further and Higher Education facilities, particularly where this will contribute to wider regional development, and • Programmes for life-long learning, especially in areas of higher education and further education and training where skills gaps are identified.		
43	To target the delivery of 550,000 additional households to 2040	To target the delivery of housing to accommodate approximately 50,000 additional households per annum to 2040.	Adverse effects on the integrity of European sites	Yes.
44	Prioritise the provision of new homes at locations that can support sustainable development and at an appropriate scale of provision relative to location	No change	Adverse effects on the integrity of European sites	Yes.
45	Support the provision of lifetime adaptable homes that can accommodate the changing needs of a household over time	No change	No adverse effects on integrity of European sites	No
46	Increase residential density in settlements, through a range of measures including reductions in vacancy, reuse of existing buildings, infill development schemes, area or site-based regeneration ~~and~~ increased building heights.	Increase residential density in settlements, through a range of measures including reductions in vacancy, re-use of existing buildings, infill development schemes, area or site-based regeneration, increased building height and more compact forms of development.	Adverse effects on the integrity of European sites	Yes
47	~~New statutory guidelines, supported by wider~~ methodologies and data sources, ~~will be put in place under Section 28 of the Planning and Development Act~~ to improve the evidence base, effectiveness and consistency of the planning process for housing provision at regional, metropolitan and local authority levels. This will ~~be supported by the provision of~~ standardised requirements ~~by regulation~~ for the recording of planning and housing data by the local authorities in order to	Continue to develop methodologies and data sources to improve the evidence base, effectiveness and consistency of the planning process for housing provision at regional, metropolitan and local authority levels. This will include standardised requirements for the recording of planning and housing data by the local authorities in order to provide a consistent and robust evidence base for housing policy formulation.	No adverse effects on the integrity of European sites.	No

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
	provide a consistent and robust evidence base for housing policy formulation			
48	A 'Housing Need Demand Assessment' (HNDA) ~~is to be~~ undertaken for each Local Authority Area in order to correlate and accurately align future housing requirements. ~~The HNDA is:~~ • to be undertaken by Local Authorities with coordination assistance to be provided by the Regional Assemblies, and at a Metropolitan scale, particularly where inter-county and inter-regional settlement interactions are to be planned for and managed; • to primarily inform housing policies, housing strategies and associated land use zoning policies as well as assisting in determining where new policy areas or investment programmes are to be developed; and • ~~to be supported, through the establishment of a coordination and monitoring unit to assist Local Authorities and Regional Assemblies in the development of the HNDA (DHPLG, Regional Assemblies and the Local Authorities).~~	A 'Housing Need Demand Assessments' (HNDAs) undertaken for each Local Authority Area in order to correlate and accurately align future housing requirements: to be undertaken by Local Authorities with coordination assistance to be provided by the Regional Assemblies, and also at a Metropolitan scale, particularly where inter-county and inter-regional settlement interactions are to be planned for and managed; and to primarily inform housing policies, housing strategies and associated land use zoning policies as well as assisting in determining where new policy areas or investment programmes are to be developed.	Adverse effects on the integrity European sites	Yes

Assessment of Adverse Effects on Integrity

Adverse effects on integrity of European sites with respect to Policy NPO42, NPO43, NPO44, NPO46 and NPO48. Mitigations required to address these effects.

Policy NPO42, given that it is linked to the targeted and planned growth in population and employment identified by the revised NPF, could result in activities which could potentially result in adverse effects on the integrity of European sites. **Policy NPO42 will result in adverse effects on the integrity of European sites in the absence of mitigation**.

Policy NPO43 targets the delivery of additional households to 2040 while Policy NPO44 seeks to prioritise the provision of new homes at locations that can support sustainable development. **Policies NPO43 and NPO44 will result in adverse effects, in the absence of mitigation**, on the integrity of European sites for the same rationale as set out for the policies which trigger adverse effects with respect to **Chapter 2**.

Policy NPO46 seeks to increase residential density in settlements through a range of measures. These measures are generally positive, however they could result in adverse effects on the integrity of European sites for the rationale set out in **Chapter 2** for the planned and targeted population growth. **Policy NPO46 will result in adverse effects on**

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

the integrity of European sites in the absence of mitigation.

Policy NPO48 requires each local authority areas to prepare a Housing Need Demand Assessment (HNDA). This in turn informs the planning and management of settlements and housing policies, strategies and land use zoning. As detailed in the assessment of policies in **Chapter 2**, a policy such as **NPO48 will result in plans or projects which generate adverse effects on the integrity of European sites in the absence of mitigation**.

No adverse effects on integrity of European sites with respect to Policies NPO37, NPO38, NPO39, NPO40, NPO41, NPO45 and NPO47.

Policy NPO37 a revision of the original policy and seeks to support the objectives of public health policy. It is not considered that this support is likely to result in any adverse effects on the integrity of European sites since in itself the support will not result in activities which will generate such effects.

Policy NPO38 seeks to ensure the integration of alternatives to the car into the design of communities. It is not considered that this aspiration will generate specific activities that could result in adverse effects on the integrity of European sites which are not already addressed through policies related to the design of communities.

Policy NPO39 sets out the type of society which should be planned for through the NPF. This policy remains unchanged in the revised NPF. It is not considered that this policy itself will result in activities which could result in adverse effects on the integrity of European sites.

Policy NPO40 supports the implementation of the Irish language. It is not considered that this policy itself will result in activities which could result in adverse effects on the integrity of European sites.

Policy NPO41 relates to meeting the needs and opportunities of an ageing population and the inclusion of clear proposals in respect of ageing communities as part of the core strategy of city and county development plans. It is not considered that this policy itself will result in activities which could result in adverse effects on the integrity of European sites. In addition, there is added certainty of this given that any city or county development plans will be subject to their own appropriate assessment with respect to European sites at the plan making stage.

Policy NPO45 supports the provision of lifetime adaptable homes. It is not considered that this policy itself will result in activities which could result in adverse effects on the integrity of European sites.

Policy NPO47 relates to data collection and its application in relation to planning and housing. It is not considered that this policy itself will result in activities which could result in adverse effects on the integrity of European sites.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO42, NPO43, NPO44, NPO46 and NPO48, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
Subject to the application of the above mitigation, it is concluded that policies NPO42, NPO43, NPO44, NPO46 and NPO48 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.				

6.4.8 Chapter 7- Realising our Island and Marine Potential

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
49	Regional, metropolitan and local development plans will take account of and integrate relevant maritime spatial planning issues.	No change	No adverse effects on the integrity of European sites	No
50	Support the sustainable growth and development of the maritime economy and continue to invest in the seafood sector and our Fishery Harbour Centres, particularly in remote rural coastal communities and islands.	No change	Potential adverse effects on integrity of European sites	Yes
51	Ensure that the strategic development requirements of Tier 1 and Tier 2 Ports, ports of regional significance and smaller harbours are addressed as part of Regional Spatial and Economic Strategies, ~~metropolitan area and city/county development plans~~, to ensure the effective growth and sustainable development of the city regions and regional and rural areas	Ensure that the strategic development requirements of Tier 1 and Tier 2 Ports, ports of regional significance, State Fishing Harbours and smaller harbours are addressed as part of Regional Spatial and Economic Strategies, and plans at local level to ensure the effective growth and sustainable development of the city regions and regional and rural areas, including, where appropriate, infrastructure to effectively support the development and maintenance of off-shore renewable electricity generating developments.	No adverse effects on integrity of European sites.	No
52	N/A	**NEW:** Support the sustainable delivery of port and harbour infrastructure to facilitate the development, maintenance and operation of off-shore renewable electricity generating developments.	Adverse effects on the integrity of European sites	Yes
53	Ensure that Ireland's coastal resource is managed to sustain its physical character and environmental quality.	No change	No adverse effects on the integrity of European sites	No
54	In line with the collective aims of national policy regarding climate adaptation, to address the effects of sea level changes and coastal flooding and erosion and to support the implementation of adaptation responses in vulnerable areas.	No change	Potential for adverse effects on the integrity of European sites.	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
55	N/A	**NEW:** Support the development of coastal management plans to address the likely effects of sea level changes and coastal flooding and erosion and to support the implementation of adaptation responses in vulnerable areas.	Potential for adverse effects on the integrity of European sites	Yes
56	To support, ~~within the context of the Offshore Renewable Energy Development Plan (OREDP) and its successors~~, the progressive development of Ireland's offshore renewable energy potential, including domestic and international grid connectivity enhancements	To support, the progressive development of Ireland's offshore renewable energy potential, the sustainable development of enabling onshore infrastructure including domestic and international grid connectivity enhancements, non-grid transmission infrastructure, as well as port infrastructure for the marshalling and assembly of wind turbine components and for the operation and maintenance of offshore renewable energy projects	Potential for adverse effects on the integrity of European sites	Yes

Assessment of Adverse Effects on Integrity

Adverse effects on integrity of European sites with respect to NPO50, NPO52, NPO54, NPO55 and NPO56. Mitigations required to address these effects.

The support provided by Policy NPO50 could result in plans or projects which deliver the growth and development of the maritime economy supported by the policy. The activities associated with those plans and projects could result in the adverse effects on the integrity of European sites; particularly mindful that those activities could occur within or impact upon European sites and their designated interests. **Policy NPO50 will therefore result in adverse effects on the integrity of European sites in the absence of mitigation**.

The delivery of port and harbour infrastructure through the support provided by **Policy NPO52**, in particular through their construction and the activities that infrastructure would deliver, has the potential for adverse effects to the integrity of European sites both directly and indirectly including influencing coastal/marine processes which support the function of European sites and impacting on the various designated interests which those sites support *e.g.,* marine mammals or seabirds. **Policy NPO52 will therefore result in adverse effects on the integrity of European sites**.

Policy NPO54 seeks to address the effects of sea level change and coastal flooding and erosion. It also supports the implementation of adaptation responses in vulnerable areas. Both are made with reference to national policy regarding climate adaptation. The policy is unclear in relation to what effects it seeks to address and whether or not those include effects to European sites and their designated features. Also, the policy is unclear whether European sites are identified as "vulnerable areas". European sites, particularly those in coastal areas, are vulnerable to the effects of sea level change and coastal flooding due to a number of factors *e.g.,* coastal squeeze and changes in sediment dynamics (inc. erosion and deposition). A number of key habitats of European sites can be effected including salt meadows, coastal lagoons, dunes. Given the lack of clarity with respect to this policy, it generated uncertainty with respect to the potential for adverse effects on the integrity of European sites and therefore there is potential for such effects to arise through the implementation of this policy. **Policy NPO54 will therefore result in adverse effects on the integrity of European sites**.

Policy NPO55 supports development of coastal management plans to address the likely effects of sea level changes and coastal flooding and erosion. It is considered that the plans or projects which will derive from these coastal management plans could result in adverse effects on the integrity of European sites. In addition, it is unclear from the wording of the policy whether the coastal management plans will include actions or outcomes which address the likely effects of sea level changes and coastal flooding and erosion on European sites. **Policy NPO55 will therefore result in adverse effects on the integrity of European sites**.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO56 supports the development of Ireland's offshore renewable energy potential with particular reference to grid connectivity (domestic and international) and port infrastructure for the marshalling and assembly of wind turbines. Given there is no policy link referenced in this policy to the policy and plan making framework through which such support will be delivered (*e.g.,* RSESs, Development Plans, National Marine Planning Framework, Designated Marine Area Plans) it is considered that there is a risk that activities resulting from plans and projects arising from this support could result in adverse effects on the integrity of European sites. If a policy and plan making framework was referenced then the plans arising from this framework would be subject to the requirements of Article 6(3) and, if necessary, 6(4) of the EU Habitats Directive. **Policy NPO56 will therefore result in adverse effects on the integrity of European sites**.

No adverse effects on integrity of European sites with respect to NPO49, NPO51 and NPO53.

Policy NPO49 requires regional, metropolitan and local development plans to take account of and integrate relevant maritime spatial planning issues. Such development plans will be subject to their own Appropriate Assessment with respect to Article 6(3) and, if necessary, 6(4) of the EU Habitats Directive and this will include an assessment of in-combination effects with other plans and projects; including plans related to maritime spatial planning such as the National Marine Planning Framework or Designated Maritime Area Plans (DMAPs); the first of which was published for consultation during May 2024 (South Coast DMAP). Given this legal framework, it is considered that adverse effects on the integrity of European sites will not occur as a result of the application of this policy.

Policy NPO51 seeks to ensure that the strategic development requirements of certain ports and harbours are addressed as part of Regional Spatial and Economic Strategies and plans at local level. The RSESs and any plans prepared at a local level will be subject to their own Appropriate Assessment with respect to Article 6(3) and, if necessary, 6(4) of the EU Habitats Directive and this will include an assessment of in-combination effects with other plans and projects; including plans related to maritime spatial planning such as the National Marine Planning Framework or Designated Maritime Area Plans (DMAPs); the first of which was published for consultation during May 2024 (South Coast DMAP). Given this legal framework, it is considered that adverse effects on the integrity of European sites will not occur as a result of the application of this policy subject to adherence to the legal framework for plan making set out under Article 6(3) and, where necessary, 6(4) of the EU Habitats Directive.

Policy NPO53 is considered a neutral policy since it is a statement regarding how Ireland's coastal resource should be managed. It is not considered that any actions resulting from the application of this policy itself could result in any adverse effects on the integrity of European sites.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO50, NPO52, NPO54, NPO55 and NPO56, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigation and (iii) the policy specific mitigations. In addition to (iii), additional policy specific mitigations are identified for **Chapter 7** and specifically policies NPO54 and NPO56, as detailed below.

Policy Specific Mitigation for Chapter 7 Policies

Policy NPO54 is currently unclear in relation to whether European sites are considered to be "vulnerable areas" with respect to the effects of sea level change and coastal flooding and erosion, and whether adaptation responses to be included within national policy include responses to address the effects identified; particularly with respect to coastal European sites. In terms of mitigation, coastal European sites will need to be identified as "vulnerable areas" alongside other social and economic assets and this policy will need to make that clear. This would then enable adaptation responses to be included within national policy to provide the framework to addressing these effects and could also be addressed within the Coastal Management Plans identified in Policy NPO55. Such adaptations will need include measures to address the effects of coastal squeeze on European sites and identify actions for managed retreat where necessary to address this coastal squeeze.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
Policy NPO56 provides support to the development of Ireland's offshore renewable energy potential with particular reference to grid connectivity and port infrastructure. In terms of this support, it will need to be linked to the policy and plan making framework through which this support will be delivered and through which specific projects will emerge. The framework reference will be the terrestrially focussed RSESs, and Development plans and the marine focussed National Marine Planning Framework and Designated Marine Area Plans; alongside the interactions between these plans. This will enable a cohesive and robust framework for delivering this support; which includes the requirement for consideration of any plans or projects supported by this policy to be subject to the requirements of Article 6(3) and, where necessary, 6(4) of the EU Habitats Directive.				
Subject to the application of the above mitigation, it is concluded that policies NPO50 NPO52, NPO54, NPO55 and NPO56 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.				

6.4.9 Chapter 8- Working with our Neighbours

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
57	Work with the relevant Departments in Northern Ireland for mutual advantage in areas such as spatial planning, ~~economic development~~ and promotion, co-ordination of social and physical infrastructure provision and environmental protection and management	Work with the relevant Departments in Northern Ireland for mutual advantage in areas such as spatial planning, development and promotion of the all-island economy, co-ordination of social and physical infrastructure provision and environmental protection and management.	No adverse effects on integrity of European sites	No
58	In co-operation with relevant Departments in Northern Ireland, to further support and develop the economic potential of the Dublin-Belfast Corridor and in particular the core Drogheda-Dundalk-Newry network and to promote and enhance its international visibility.	No change	Potential for adverse effects on the integrity of European sites	Yes
59	In co-operation with relevant Departments in Northern Ireland, support and promote the development of the North West City Region as interlinked areas of strategic importance in the North-West of Ireland, through collaborative structures and a joined-up approach to spatial planning.	No change	Potential for adverse effects on the integrity of European sites	Yes
60	N/A	**NEW:** Support cross border cooperation and funding for health and education services and facilities.	No adverse effects on the integrity of any European sites	No
61	In co-operation with relevant Departments in Northern Ireland, enhanced transport connectivity between Ireland and Northern Ireland, to include cross-border road and rail, cycling and walking routes, as well as blueways, greenways and peatways	In co-operation with relevant Departments in Northern Ireland, enhanced sustainable transport connectivity between Ireland and Northern Ireland, to include cross-border road and rail, electric vehicle infrastructure, cycling and walking routes, as well as blueways, greenways and peatways.	Potential for adverse effects on the integrity of European sites.	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
62	In co-operation with relevant Departments in Northern Ireland, strengthen all-island energy infrastructure and interconnection capacity, including distribution and transmission networks to enhance security of electricity supply	In co-operation with relevant Departments in Northern Ireland, strengthen all-island energy infrastructure and interconnection capacity, including distribution and transmission networks to enhance security of electricity supply, and explore the potential for strategic cooperation on offshore wind energy development.	Potential for adverse effects on the integrity of European sites	Yes
63	In co-operation with relevant Departments in Northern Ireland, develop a stable, innovative and secure digital communications and services infrastructure on an all-island basis.	No change	Potential for adverse effects on the integrity of European sites	Yes
64	Support the coordination and promotion of all-island tourism initiatives through continued co-operation between the relevant tourism agencies and Tourism Ireland.	Support the coordination and promotion of all-island tourism initiatives through continued co-operation between the relevant tourism agencies and Tourism Ireland, pursue the further development of sport, and invest in the diverse heritage, arts and cultural and linguistic traditions of the island.	Potential for adverse effects on the integrity of European sites	Yes
65	In co-operation with relevant Departments in Northern Ireland, ensuring effective management of shared landscapes, heritage, water catchments, habitats, species and trans-boundary issues in relation to environmental policy.	No change	No adverse effects on the integrity of European sites	No
66	In co-operation with the United Kingdom Government and devolved Governments of Northern Ireland, Scotland and Wales, Ireland will support mutually beneficial policy development and activity in the areas of spatial and infrastructure planning and other related spheres.	No change	Potential for adverse effects on the integrity of European sites.	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

Assessment of Adverse Effects on Integrity

Adverse effects on integrity of European sites with respect to NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66. Mitigations required to address these effects.

Policy NPO58 seeks to further support and develop the economic potential of the Dublin-Belfast Corridor and, in particular, the core Drogheda-Dundalk-Newry network. The regional role of the Drogheda-Dundalk-Newry network identified in Policies NPO5 and NPO7 have already been assessed as resulting in adverse effects on the integrity of European sites. The same conclusion is also applicable with respect to **Policy NPO58 in that it will result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO59 seeks to support and promote the development of the North West City Region. The development of this region has already been assessed with respect to Policies NPO5 and NPO7 have already been assessed as resulting in adverse effects on the integrity of European sites. The same conclusion is also applicable with respect to **Policy NPO59 in that it will result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO61 relates to enhanced transport connectivity between Ireland and Northern Ireland both for transport, walking and cycling; including reference to greenways, blueways and peatways. As similarly assessed with respect to policies NPO5, NPO6 and NPO22, plans or projects arising from this policy have the potential to result in adverse effects on the integrity of European sites. The same conclusion is also applicable for the same rationale with respect to **Policy NPO61 in that it will result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO62 looks to strengthen the all-Ireland energy infrastructure and interconnection capacity through cooperation with relevant Departments in Northern Ireland including exploring the potential for strategic cooperation on offshore wind energy development. Such a policy could result in plans or projects which could cause adverse effects on the integrity of European sites (as set out in **Appendix A** to **Appendix D**; including those in Northern Ireland); these effects are currently not known since the policy does not make any spatially-specific references to the location of the infrastructure proposed. **Policy NPO62 will potentially result in adverse effects on the integrity of European sites due to this uncertainty and in the absence of mitigation.**

Policy NPO63 relates to the development of a digital communications and services infrastructure through cooperation with relevant Departments in Northern Ireland. Such a policy could result in plans or projects which could cause adverse effects on the integrity of European sites; these effects are currently not known since the policy does not make any spatially-specific references to the location of the infrastructure proposed. **Policy NPO63 will potentially result in adverse effects on the integrity of European sites due to this uncertainty and in the absence of mitigation.**

Policy NPO64 supports the coordination and promotion of all-Ireland tourism initiatives. These initiatives are not defined and could result in plans or projects which could result in adverse effects on the integrity of European sites. **Policy NPO64 will potentially result in adverse effects on the integrity of European sites due to this uncertainty and in the absence of mitigation.**

Policy NPO66 supports mutually beneficial policy development and activity in the areas of spatial and infrastructure planning and other related spheres in co-operation with the United Kingdom and it's devolved governments. **Policy NPO66 could result in plans or projects which will cause adverse effects to the integrity of European sites in the absence of mitigation.**

No adverse effects on integrity of European sites with respect to NPO57, NPO60 and NPO65.

Policy NPO57 is a statement regarding the working relationship of the State with counterparts in Northern Ireland. Such a statement, in itself, is not considered likely to result in adverse effects on the integrity of European sites other than potentially positive given that it commits to the coordination of environmental protection and management.

Policy NPO60 relates to cooperation and funding for cross-border health and education services and facilities. Such a policy for cooperation and funding, in itself, is not considered likely to result in adverse effects on the integrity of European sites.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO65 is generally positive, including with respect to European sites, since it requires the cooperation between Ireland and Northern Ireland to ensure effective management of shared water catchments, habitats and species. It is no considered that such a policy would result in plans or projects which would result in adverse effects on the integrity of European sites.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations.

Subject to the application of the above mitigation, it is concluded that policies NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.

6.4.10 Chapter 9- Climate Transition and our Environment

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
67	The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the requirements of all relevant environmental legislation and the sustainable management of our natural capital.	The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the medium and longer-term requirements of all relevant environmental and climate legislation and the sustainable management of our natural capital.	No adverse effects on the integrity of European sites	No
68	Support the circular and bio economy including in particular through greater efficiency in land management, greater use of renewable resources and by reducing the rate of land use change from urban sprawl and new development	Support the circular and bio economy including in particular through greater efficiency in land and materials management, promoting the sustainable re-use of existing buildings and structures, while conserving cultural and natural heritage, the greater use of renewable resources and by reducing the rate of land use change from urban sprawl and new development.	No adverse effects on the integrity of European sites	No
69	N/A	**NEW:** Support the growth and development of efficient district heating, electrification of heating, and utilisation of geothermal energy,	Potential for adverse effects on the integrity of European sites.	Yes
70	Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions	Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions as expressed in the most recently adopted carbon budgets.	Potential for adverse effects on the integrity of European sites	Yes
71	Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a ~~low~~ carbon economy by 2050.	Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a zero carbon economy by 2050.	Potential for adverse effects on the integrity of European sites	Yes
72	N/A	**NEW:** Support the development and upgrading of the national electricity grid infrastructure, including to support the delivery of renewable electricity generating development.	Potential for adverse effects on integrity of European sites	Yes
73	N/A	**NEW:** Support an all-island approach to the delivery of renewable electricity through interconnection of the transmission grid.	Potential for adverse effects	Yes

<table>
<tr><th>NPO 2018 Objective</th><th>2024 Objective</th><th>Assessment</th><th>Mitigation Required?</th></tr>
<tr><td></td><td></td><td></td><td>on integrity of European sites</td><td></td></tr>
<tr><td>74</td><td>N/A</td><td>NEW: Support the co-location of renewable technologies with other supporting technologies and complementary land uses, including agriculture, forestry and opportunities to enhance biodiversity and promote heritage assets, at appropriate locations which are determined based upon the best available scientific evidence in line with EU and national legislative frameworks.</td><td>Potential for adverse effects on integrity of European sites</td><td>Yes</td></tr>
<tr><td>75</td><td>N/A</td><td>NEW: Each Regional Assembly must plan, through the Regional Spatial and Economic Strategy, for the delivery of the regional renewable electricity capacity allocations indicated for onshore wind and solar reflected in Table 9.1 below, and identify allocations for each of the local authorities, based on the best available scientific evidence and in accordance with legislative requirements, in order to meet the overall national target.
Table 9.1: Regional Renewable Electricity Capacity Allocations
<table>
<tr><th rowspan="2">Region</th><th>Energised capacity 2023 (MW)</th><th>Additional Renewable Power Capacity Allocations (MW)</th><th>Total % of National Share in 2030</th><th>Energised Capacity 2023 (MW)</th><th>Additional Renewable Power Capacity Allocations (MW)</th><th>Total % of National Share in 2030</th></tr>
<tr><th colspan="3">Onshore Wind</th><th colspan="3">Solar PV</th></tr>
<tr><td>Eastern and Midlands</td><td>284</td><td>1,966</td><td>25%</td><td>306</td><td>3,294</td><td>45%</td></tr>
<tr><td>Northern and Western</td><td>1,761</td><td>1,389</td><td>35%</td><td>0.3</td><td>959</td><td>12%</td></tr>
<tr><td>Southern</td><td>2,622</td><td>978</td><td>40%</td><td>138</td><td>3,302</td><td>43%</td></tr>
<tr><td>Total</td><td>4,667</td><td>4,333</td><td></td><td>445</td><td>7,555</td><td></td></tr>
</table></td><td>Adverse effects on the integrity of European sites</td><td>Yes</td></tr>
</table>

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
76	N/A	**NEW:** Local Authorities shall plan for the delivery of Target Power Capacity (MW) allocations consistent with the relevant Regional Spatial and Economic Strategy, through their City and County Development Plans.	Adverse effects on the integrity of European sites	Yes
77	Sustainably manage waste generation, invest in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society	Sustainably manage waste generation including construction and demolition waste, invest in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society.	Potential adverse effects on the integrity of European sites	Yes
78	Enhance water quality and resource management by: • Ensuring flood risk management informs place-making by avoiding inappropriate development in areas at risk of flooding in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities; • Ensuring that River Basin Management Plan objectives are fully considered throughout the physical planning process; • Integrating sustainable water management solutions, such as Sustainable Urban Drainage (SUDS), nonporous surfacing and green roofs, to create safe places.	Enhance water quality and resource management by preventing or mitigating the risk of flooding by: • Ensuring flood risk management informs place-making by avoiding inappropriate development in areas at risk of flooding in accordance with The Planning System and Flood Risk Management Guidelines for Planning Authorities. • Taking account of the potential impacts of climate change on flooding and flood risk and consideration of the Flood Risk Management Climate Change Sectoral Adaptation Plan. • Ensuring that River Basin Management Plan objectives are fully considered throughout the physical planning process. • Integrating sustainable water management solutions, such as Sustainable Urban Drainage (SUDS), non-porous surfacing and green roofs, and nature based solutions, to create safe places.	Potential adverse effects on the integrity of European sites	Yes
79	N/A	**NEW:** Support the management of stormwater, rainwater and surface water flood risk through the use of nature-based solutions and sustainable drainage systems.	No adverse effects on the integrity of European sites	No
80	N/A	**NEW:** Support the retrofitting of existing environments to cater for surface water run-off through the use of nature based solutions, including the implementation by Uisce Éireann of Integrated Drainage Plans on a prioritised settlement basis.	Potential for adverse effects on the integrity of European sites	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
81	Integrated planning for Green Infrastructure and ecosystem services will be incorporated into the preparation of statutory land use plans	Integrated planning for Green and Blue Infrastructure will be incorporated into the preparation of statutory land use plans while maintaining ecosystem services and ecosystem functions and conserving and/or restoring biodiversity.	No adverse effects on the integrity of European sites	No
82	Identify and strengthen the value of greenbelts and green spaces at a regional and city scale, to enable enhanced connectivity to wider strategic networks, prevent coalescence of settlements and to allow for the long-term strategic expansion of urban areas	Identify and strengthen the value of greenbelts and green and blue spaces at a regional, city and local scales, to enable enhanced connectivity to wider strategic networks and prevent coalescence of settlements and to allow for the long-term strategic expansion of urban areas. Promote and support an increase in the provision of green and blue spaces and tree canopy cover in settlements.	No adverse effects on the integrity of European sites	No
83	N/A	**NEW:** In line with the National Biodiversity Action Plan and the European Union Nature Restoration Law, and best available scientific information, regional and local planning authorities shall support the preparation of the National Restoration Plan.	No adverse effects on the integrity of European sites.	No.
84	N/A	**NEW:** In line with the National Biodiversity Action Plan; the conservation, enhancement, mitigation and restoration of biodiversity is to be supported by: • Integrating policies and objectives for the protection and restoration of biodiversity, including the avoidance and/or minimisation of potential biodiversity impacts, in statutory land-use plan. • Retention of existing habitats which are currently important for maintaining biodiversity (at local/regional/national/international levels), in the first instance, is preferable to replacement/restoration of habitats, in the interests of ensuring continuity of habitat provision and reduction of associated risks and costs.	No adverse effects on the integrity of European sites.	No.
85	N/A	**NEW:** In line with the National Biodiversity Action Plan, planning authorities should seek to address no net loss of biodiversity within their plan making functions.	Potential adverse effects on integrity of European sites	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
86	Enhance the conservation status and improve the management of protected areas and protected species by: • Implementing relevant EU Directives to protect Ireland's environment and wildlife; • ~~Integrating policies and objectives for the protection and restoration of biodiversity in statutory development plans;~~ • Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites; • Continued research, survey programmes and monitoring of habitats and species	Enhance the conservation status and improve the management of protected areas and protected species by: • Implementing relevant EU Directives to protect Ireland's environment and wildlife and support the objectives of the National Biodiversity Action Plan; • Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites; • Continued research, survey programmes and monitoring of habitats and species.	No adverse effects on the integrity of European sites	No
87	Conserve and enhance the rich qualities of natural and cultural heritage of Ireland in a manner appropriate to their significance	Conserve and enhance the rich qualities of natural, cultural and built heritage of Ireland in a manner appropriate to their cultural and environmental significance.	No adverse effects on the integrity of European sites	No
88	Facilitate landscape protection, management and change through the preparation of a National Landscape Character Map and development of guidance on local landscape character assessments, (including historic landscape characterisation) to ensure a consistent approach to landscape character assessment, particularly across planning and administrative boundaries	No change	No adverse effects on the integrity of European sites	No
89	Ensure the efficient and sustainable use and development of water resources and water services infrastructure in order to manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment	Ensure the alignment of planned growth with the efficient and sustainable use and development of water resources and water services infrastructure, in order to manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment.	Potential for adverse effects on the integrity of European sites	Yes

	NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
90	Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions	Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green and blue infrastructure planning and innovative design solutions.	Potential for adverse effects on the integrity of European sites	Yes
91	Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance ~~and Noise Action Plans.~~	Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through Strategic Noise Maps, development and implementation of Noise Action Plans and national planning guidance.	Potential for adverse effects on the integrity of European sites.	Yes

Assessment of Adverse Effects on Integrity

Adverse effects on integrity of European sites with respect to NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91. Mitigations required to address these effects

Policy NPO69 supports the growth and development of efficient district heating, electrification of heating and the utilisation of geothermal energy. This policy could result in plans and projects relating to the growth and development identified; the locations or nature of this growth and development is not defined by the policy. Given this uncertainty, it is considered that **Policy NPO69 could result in potential adverse effects on the integrity of European sites in the absence of mitigation**.

Policy NPO70 seeks to integrate the reduction of Ireland's carbon footprint through integrating climate action into the planning system in support of national targets for climate policy objectives and targets for greenhouse gas emission reductions. Although it is recognised that the impact of climate change will result in adverse effects on ecosystems and the habitats and species that they support, including those for which European sites are designated, a policy which uni-laterally seeks the integration of climate action into the planning system without the integration of corresponding biodiversity policy into the same system risks that climate actions could result in compounding the biodiversity crises and potentially resulting in adverse effects on European sites. Ultimately, the climate and biodiversity crises are "two faces of the same coin" and therefore a bi-lateral policy or separate but complimentary policies seeking the integration of climate and biodiversity action into the planning system would be beneficial. In the absence of such a policy, it is considered that **Policy NPO70 has the potential to adversely affect the integrity of European sites in the absence of mitigation**.

Policy NPO71 promotes renewable energy use and generation at appropriate locations. The policy does not define "appropriate locations". Given that the policy could result in plans or projects relating to renewable energy use and generation and given the uncertainty regarding what would be considered "appropriate locations" then there is a risk that any plans or projects bought forward consistent with this policy could result in adverse effects on the integrity of European sites. These effects are considered to be direct or indirect; in relation to indirect these would include potential for downstream effects in water quality or effects related to the movement of qualifying interests between European sites (e.g., dispersal, commuting or migration pathways). **Policy NPO71 has the potential to adversely affect the integrity of European sites in the absence of mitigation.**

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO72 and **NPO73** support the development and of national electricity grid infrastructure to support the delivery of renewable electricity development and an all-Ireland approach to the delivery of renewable electricity. Again, it is acknowledged that grid infrastructure to support the delivery of renewable electricity development and its distribution are key activities needed to respond to climate change; which itself will moderate some of the effects on climate change on ecosystems, habitats and species, including those designated as European sites. However, the promotion and support for the delivery and distribution of renewable electricity development provide by Policies NPO72 and NPO73, respectively, can't facilitate or contribute to the worsening of the declared national biodiversity crisis; which in part mirrors the potential adverse effects identified with respect to Policy NPO70. Therefore, plans or projects being bought forward and supported under Policies NPO72 and NPO73 would result in adverse effects on the integrity of European sites and their designated interests.

Policy NPO74 supports the co-location of renewable technologies with other supporting technologies and complementary land uses, including opportunities for enhancing biodiversity, at appropriate locations. This will be determined based on the best available scientific evidence in line with EU and national legislative frameworks. With respect to European sites, the principle of co-location is acceptable, sensible and positive particularly if it results in the enhancement of the biodiversity of those European sites, including their designated interests. However, the policy does not define or identify "suitable locations" and therefore any plans or projects bought forward under and supported by **Policy NPO74 could result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO75 requires each Regional Assembly to plan, through the Regional Spatial and Economic Strategies, for the delivery of allocated regional renewable electricity capacities for onshore wind and solar; the allocations as defined by the policy and these to be tiered down to local authorities based on the best available scientific evidence in line with legislative requirements in order to meet the regional allocations. **Policy NPO76** then requires each local authority to plan for the delivery of the allocations at the local level through their City and County Development Plans. **Policies NPO75 and NPO76, and any plans or projects which will emerge as a result of these policies, will result in adverse effects on the integrity European sites in the absence of mitigation**. In delivering the allocated capacities, Regional Assemblies will need to consider the direct effects of plans and projects, both alone and in-combination, but also the indirect effects, alone or in-combination, of such projects e.g., potential for downstream effects in water quality or effects related to the movement of qualifying interests between European sites (e.g., dispersal, commuting or migration pathways). The in-combination effects of Regional Spatial and Economic Strategies will also be important, particularly where European sites straddle regional boundaries and/or where there is ecological connectivity between European sites and their designated interests which straddles regional boundaries (e.g., dispersal, commuting or migration pathways for various species). The same considerations will also be pertinent as these regional allocations are tiered down to local authorities under Policy NPO76. Although it is recognised that climate change will affect biodiversity, it is important to ensure that the policy support provided via NPO75 and NPO76 do not result in biodiversity loss itself; further compounding the national biodiversity crisis.

Policy NPO77 relates to the sustainable management of waste. Plans or project which result from this policy, and therefore the **Policy NPO77 itself, have the potential for adverse effects on the integrity of European sites in the absence of mitigation** since how the waste will be managed and the specifics of the plans or project to delivery that management are not known at this stage.

Policy NPO78 seeks to enhance water quality, water resource management and prevent or mitigate the risk of flooding. Plans or projects arising from **Policy NPO78, and therefore the policy itself, have the potential for adverse effects on the integrity of European sites** since the specifics of the plans or project to delivery that management are not known at this stage. The assessment made with respect to Policy NPO55 are also applicable as it relates to coastal flooding.

Policy NPO80 supports the retrofitting of existing environments to cater for surface water run-off through the use of nature-based solutions, including the implementation of Uisce Eireann's Integrated Drainage Plans. This policy is generally positive, particularly mindful of the mitigations set out in Chapter 2 and urban drainage. However, the plans or projects that will arise from support provided by policy NPO57b, and the actions or activities which they will include, are not known. Therefore, in light of this uncertainty, **Policy NPO80 has the potential for adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO85 states that, in line with the National Biodiversity Action Plan, planning authorities should seek to address no net loss of biodiversity within their plan making functions. This is positive, however there is no clarity or certainty in relation to how planning authorities should (i) account and evidence "no net loss of biodiversity or (ii) the options available to them through the planning system to address situations where net loss of biodiversity will occur through plans or project. In the absence of this clarity and

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

certainty, it is unclear as to the effects of actions taken by planning authorities to respond to this policy; including with respect to European sites and their designated interests. **Policy NPO85 has the potential for adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO89 ensures the efficient and sustainable use and development of water resources and water services infrastructure. It is considered that plans or projects which result from this policy, and therefore **Policy NPO89 itself, could result in adverse effects on the integrity of European sites in the absence of mitigation** given that the detail of those plans and projects is not known at this stage.

Policy NPO90 seeks to improve air quality and help prevent people being exposed to unacceptable levels of pollution through integrated land use and spatial planning. Although it does not specifically reference natural ecosystems or the habitats and species they support, such a policy could be indirectly beneficial to these ecosystems also, which includes European sites and their designated interests. This is particularly mindful that poor air quality has been identified as a threat and pressure to European sites through the most recent Article 17 reporting. However, it is considered that plans or projects which result from this policy, and therefore **Policy NPO90 itself, could result in adverse effects on the integrity of European sites in the absence of mitigation** given that the detail of those plans and projects is not known at this stage. It would also be beneficial to include reference within the policy to needing to improve air quality to enable natural ecosystems, including those within European sites, to achieve favourable conservation status within the policy.

Policy NPO91 seeks to promote the pro-active management of noise where it is likely to have a significant adverse impact on health and quality of life. It is considered that plans or projects which result from this policy, and therefore **Policy NPO91 itself, could result in adverse effects on the integrity of European sites in the absence of mitigation** given that the detail of those plans and projects is not known at this stage. It would also be beneficial to include reference within the policy to needing to manage noise where it affects natural ecosystems, including those within European sites, to achieve favourable conservation status.

No adverse effects on integrity of European sites with respect to NPO67, NPO68, NPO79, NPO81, NPO82, NPO83, NPO84, NPO86, NPO87 and NPO88.

Policy NPO67 is a statement regarding how the planning system needs to be responsive to national environmental challenges and ensuring that development occurs within environmental limits and having regard to the requirements of relevant environmental and climate legislation and the sustainable management of natural capital. It is considered this policy is neutral with respect to European sites and is considered unlikely to result in its own right in plans or projects which could result in adverse effects on European sites. Depending on the regard given by the planning system to environmental legislation and also how “environmental limits” and “sustainable management” are defined and applied by the planning system, there is potential for this policy to result in positive effects on European sites and their designated interests.

Policy NPO68 supports the circular and bio economy making particular reference to greater efficiency in land and material management, promoting the sustainable re-use of existing buildings and structures, while ensuring conservation of cultural and natural heritage, the greater use of renewable resources. It is not considered that this policy, in itself, will result in plans or projects which will result in adverse effects on the integrity of European sites. Depending on how the support is applied, there is potential for such a policy to have a beneficial effect on European sites such as reducing the rate of land use change from urban sprawl and new development.

Policy NPO79 is considered neutral and potentially positive with respect to European sites depending on the nature based solutions and sustainable urban drainage systems delivered. It is not considered that this policy, in itself, will result in any plans or projects which could result in adverse effects on the integrity of European sites.

Policy NPO81 integrates planning for green and blue infrastructure and maintaining ecosystem services and functions into the preparation of statutory land use plans. This is positive with respect to ecosystem and the habitats and species which they support, including with respect to European sites and their designated interests. It is not considered that any adverse effects on the integrity of European site; particularly given that statutory land use plans will also be subject to their own legislative environmental assessment and approval processes, including SEA and AA.

Policy NPO82 seeks to identify and strengthen the value of greenbelts and green/blue spaces at a regional, city and local scales. It also seeks to promote and support an increase in the provision of green and blue spaces and tree canopy cover in settlements. This is considered neutral in terms of European sites and potentially positive depending on whether the provision of such greenbelts and green/blue spaces can assist with achieving the favourable conservation status of European sites e.g., where

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?

those sites are currently experiencing threats or pressures from recreational activities. In itself, it is not considered that the policy will result in adverse effects on the integrity of European sites.

Policy NPO83 states that regional and local planning authorities will support the preparation of the National Restoration Plan in line with the National Biodiversity Action Plan and EU Nature Restoration Law. The preparation of National Restoration Plan will become a statutory requirement following the recent approval of the EU Nature Restoration Law during June 2024. This is a positive policy with respect to European sites and will not result in any adverse effects on the integrity of European site; rather it will result in a positive effect on European sites once implemented.

Policy NPO84 sets out how, in line with the National Biodiversity Action Plan, the conservation, enhancement, mitigation and restoration of biodiversity is to be supported. This is positive with respect to ecosystem and the habitats and species which they support, including with respect to European sites and their designated interests. It is not considered that any adverse effects on the integrity of European site; particularly given that statutory land use plans will also be subject to their own legislative environmental assessment and approval processes, including SEA and AA.

Policy NPO86 seeks to enhance the conservation status and improve the management of protected areas; which include European sites. This is positive with respect to ecosystem and the habitats and species which they support, including with respect to European sites and their designated interests. It is not considered that any adverse effects on the integrity of European site will result due to any plans or projects which emerge from this policy. In addition, where the policy is applicable to statutory development plans such plans will also be subject to their own legislative environmental assessment and approval processes, including SEA and AA.

Policy NPO87 conserves and enhances the “rich qualities” of natural, cultural and built heritage of Ireland. This is considered neutral in terms of European sites and the policy in itself, or any plans or projects arising from it, are unlikely to result in adverse effects on the integrity of European sites.

Policy NPO88 seeks to facilitate landscape protection, management and change. This is considered neutral in terms of European sites and the policy in itself, or any plans or projects arising from it, are unlikely to result in adverse effects on the integrity of European sites. However, there are potential opportunities for reflecting the actions identified with this policy with the overarching mitigations identified with respect to the assessment of policies NPO1 to NPO4, inclusive, in Chapter 2 as it relates to Biodiversity Infrastructure Strategies (BISs) and Biodiversity Opportunity Areas (BOAs).

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations.

With respect to Policy NPO85, the following mitigation will be implemented to address the uncertainty identified and to ensure that no adverse effects on European sites will result through this policy:

No Net Loss of Biodiversity Guidance

Movement towards no net loss for development planning and policy is critical and consistent with the identified actions of the legally mandated 4th Biodiversity Action Plan. In this regard, the Department, in collaboration with relevant Government agencies, will prepare and publish a science-based methodology by which no net loss can be demonstrated for their remit land use planning. The methodology will also address viable options/mechanism to address losses where these are identified at a project level. Such options/mechanisms could include addressing losses strategically through Green Infrastructure Strategies and/or County Biodiversity Action Plans consistent with and

NPO 2018 Objective	2024 Objective	Assessment	Mitigation Required?
	complimenting the National Restoration Plan to be published by 2026 (in accordance with EU Nature Restoration Law) and consistent with Outcome 2F of the 4th Biodiversity Action Plan. **Subject to the application of the above mitigation, it is concluded that policies NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**		

6.4.11 Chapter 10- Implementing the National Planning Framework

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
~~66~~	~~A more effective strategic and centrally managed approach will be taken to realise the development potential of the overall portfolio of state owned and/or influenced lands in the five main cities other major urban areas and in rural towns and villages as a priority, particularly through the establishment of a National Regeneration and Development Agency.~~	Deleted.		
92	~~Provision will be made for~~ Metropolitan Area Strategic Plans ~~to~~ be prepared for the Dublin, Cork, Limerick, Galway and Waterford Metropolitan areas and in the case of Dublin and Cork, to also address the wider city region, by the appropriate authorities in tandem with and as part of the relevant Regional Spatial and Economic Strategy~~ies.~~	Metropolitan Area Strategic Plans for the Dublin, Cork, Limerick, Galway and Waterford Metropolitan areas and in the case of Dublin and Cork, to also address the wider city region, shall be reviewed by the appropriate authorities in tandem with and as part of a review of the relevant Regional Spatial and Economic Strategy	Potential adverse effects on the integrity of European sites.	Yes
93	A Metropolitan Area Strategic Plan ~~may enable up to 20% of the phased population growth targeted in the principal city and suburban area, to be accommodated in the wider metropolitan area i.e., outside the city and suburbs or contiguous zoned area, in addition to growth identified for the Metropolitan area. This will be subject to:~~ ~~– any relocated growth being in the form of compact development, such as infill or a sustainable urban extension;~~ ~~– any relocated growth being served by high capacity public transport and/or~~	The Metropolitan Area Strategic Plans, shall include provision for large-scale Transport Orientated Development (TOD) opportunities and may target a proportion of planned growth in the metropolitan areas towards the delivery of new sustainable communities at brownfield and greenfield locations in the principal city and suburbs areas and in the wider metropolitan areas focused on opportunities arising from existing and planned major public transport investment, along planned high capacity public transport corridors and in accordance with the principles of Transport Orientated Development.	Potential adverse effects on the integrity of European sites.	Yes

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
	~~related to significant employment provision; and~~ – ~~National Policy Objective 9, as set out in Chapter 4~~			
94	Statutory arrangements between spatial and transport planning in the Greater Dublin Area will be extended to other cities.	No change	Potential for adverse effects on European sites.	Yes
95		**NEW**: The Government will work to establish the necessary institutional and funding arrangements to support the development and accelerated delivery of Transport Orientated Development at suitable locations in conjunction with the ongoing programme of investment in the public transport network.	No adverse effects on the integrity of European sites	No
96	Provision will be made for urban area plans, ~~based on~~ current local area plan provisions, ~~and joint~~ urban area plans ~~and local area plans will~~ be prepared where a town and environs lie within the combined functional area of more than one local authority.	Provision will be made for urban area plans and priority area plans, to replace current local area plan provisions; coordinated area plans to be prepared where a town and environs lie within the combined functional area of more than one local authority, and the designation of areas with significant potential for development as Candidate Urban Development Zones and Urban Development Zones in order to facilitate focused investment in enabling infrastructure and accelerated development.	Potential for adverse effects on European sites.	Yes
~~71~~	~~City/county development plan core strategies will be further developed and standardised methodologies introduced to ensure a co-ordinated and balanced approach to future population and housing requirements across urban and rural areas.~~	Deleted.		
97	Planning authorities will be required to apply a standardised, tiered approach to differentiate between i) zoned land that is serviced and ii) zoned land that is serviceable within the life of the plan	No change	No adverse effects on the integrity of European sites	No

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
98	When considering zoning lands for development purposes that require investment in service infrastructure, planning authorities will make a reasonable estimate of the full cost of delivery of the specified services and prepare a report, detailing the estimated cost at draft and final plan stages.	No change	No adverse effects on the integrity of European sites	No
99	When considering zoning land for development purposes that cannot be serviced within the life of the relevant plan, such lands should not be zoned for development	No change	No adverse effects on the integrity of European sites	No
100	Planning authorities will use compulsory purchase powers to facilitate the delivery of enabling infrastructure to prioritised zoned lands, to accommodate planned growth.	No change	No adverse effects on the integrity of European sites	No
101	Planning authorities and infrastructure delivery agencies will focus on the timely delivery of enabling infrastructure to priority zoned lands in order to deliver planned growth and development.	No change	No adverse effects on the integrity of European sites	No
102	N/A	**NEW:** Develop and implement new approaches to measuring and monitoring compact growth in cities and larger settlements aligned to increased digitalisation of the planning system.	No adverse effects on the integrity of European sites	No
~~73a~~	~~Guidance will be developed to enable planning authorities to apply an order of priority for development of land, taking account of proper planning and sustainable development, particularly in the case of adjoining interdependent landholdings.~~	Deleted.		

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?
103	~~Secure~~ the alignment of the National Planning Framework and the National Development Plan through delivery of the National Strategic Outcomes.	Continue to ensure the alignment of the National Planning Framework and the National Development Plan through delivery of the National Strategic Outcomes.	No adverse effects on the integrity of European sites	No

Assessment of Adverse Effects on Integrity

Adverse effects on integrity of European sites with respect to NPO92, NPO93, NPO94 and NPO96. Mitigations required to address these effects.

Policy NPO92 relates to the review of Metropolitan Area Strategic Plans (MASPs) in tandem with and as part of a review of the relevant Regional Spatial and Economic Strategies. **Policy NPO93** includes specific provisions for the MASPs more generically in relation to Transport Orientated Development (TOD). MASPs have a statutory basis and their core purpose is to identify key change parameters, prioritising infrastructure delivery and coordination and prioritising compact regeneration and growth through more intensive land use. Given their purpose and their link to RSESs and are part of the framework for delivering the population and economic growth for the key metropolitan areas identified already in Policies NPO3, NPO5 and NPO8, it is considered that both **Policy NPO92 and NPO93 have the potential for adverse effects on the integrity of European sites in the absence of mitigation** for the same rationale and assessment for the NPOs of **Chapter 2**. In relation to Policy NPO93, the assessment made with respect to Policy NPO10 is also pertinent and applicable to the assessment of Policy NPO93 also since it relates to Transport Orientated Development (TOD).

Policy NPO94 relates to the statutory arrangements between spatial and transport planning in Irish cities. It is unclear what statutory arrangements are applicable or what their implications are of these with respect to European sites. Given this uncertainty, it is considered that **Policy NPO94 could result in adverse effects on the integrity of European sites in the absence of mitigation.**

Policy NPO96 relates to Urban Area Plans and Priority Area Plans and includes provision for the designation of Candidate Urban Development Zones and Urban Development Zones; both of which are to facilitate focused investment in enabling infrastructure and accelerated development. At the revised NPF level, no detail is available for the actions, policies or projects which will be included within either the Urban Area Plans or Priority Area Plans. Likewise, no detail is available regarding the locations of Candidate Urban Development Zones or Urban Development Zones. Given this uncertainty and mindful that the policy will influence the spatial focus of development, it is likely that **Policy NPO96 will result in potential adverse effects on the integrity of European sites in the absence of mitigation.**

No adverse effects on integrity of European sites with respect to NPO95 and NPO97 to NPO103.

Policy NPO95 relates to the establishment of the institutional and funding arrangements to support the development and accelerated delivery of Transport Orientated Development (TOD). Given that it relates to institutional and funding arrangements, it is not considered that this policy in its own right will result in any plans or project which would result in adverse effects on European sites which have not already been addressed with respect to the other revised NPF policies which relate to TOD.

NPO	2018 Objective	2024 Objective	Assessment	Mitigation Required?

Policy NPO97 requires planning authorities to apply a particular approach in differentiating between zoned land in terms of whether it is serviced or serviceable. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO98 relates to the approach which planning authorities need to take in considering the investment required to service zoned lands. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO99 relates to when or when not to zone land for development depending on that land being serviced or not. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO100 relates to the use of compulsory purchase powers to facilitate the delivery of enabling infrastructure to prioritised zoned lands. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO101 relates to the focus on timely delivery of enabling infrastructure to priority zoned land. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO102 relates to developing and implementing approaches to measure and monitor compact growth. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Policy NPO103 ensures the continued alignment of the NPF and the National Development Plan. It is not considered that this policy, in itself, will result in any adverse effects on the integrity of European sites.

Mitigation of Adverse Effects on Integrity

The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO92, NPO93, NPO94 and NPO96, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations, and (iii) the policy specific mitigations.

Subject to the application of the above mitigation, it is concluded that policies NPO92, NPO93, NPO94 and NPO96 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.

6.4.12 National Strategic Outcomes

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
NSO 1- Compact Growth	No change.	Adverse effects on the integrity of European Sites.	Yes
NSO 2- Enhanced Regional Accessibility	• Under *Inter Urban Roads* the following NSO has been revised as follows: – Advancing orbital traffic management solutions, including the Galway Ring Road and ~~M8/N25/N40 Dunkettle Junction upgrade (approved) in Cork~~ the Cork City Northern Transport Project; • Under *Public Transport* the following NSO has been revised as follows: – To strengthen public transport connectivity between cities and large growth towns in Ireland and Northern Ireland with improved services and reliable journey times, based on the findings of the Draft All-Island Strategic Rail Review. • New NSO has been added under the sub-heading *Cycling*: – Develop a safe and connected cycle network between cities, towns and key tourist destinations to reduce the carbon impact of transport, promote a healthy and inclusive society and promote economic growth.	Adverse effects on the integrity of European Sites.	Yes
NSO 3- Strengthened Rural Economies and Communities	Under *Rural Development* the following NSOs have been revised as follows: – Implementation of the ~~actions~~ policy measures outlined in Our Rural Future and Our Living Islands policy documents ~~the Action Plan for Rural Development~~; – Implementation of ~~a targeted~~ the Rural Regeneration and Development Fund to enable opportunities to secure the rejuvenation and re-purposing of rural towns and villages weakened by the structural changes in rural economies and settlement patterns; – Provide a quality nationwide community-based public transport system in rural Ireland which responds to local needs under the Connecting Ireland Programme ~~Rural Transport Network~~ and similar initiatives; – Ongoing investment in the agri-food sector to underpin the sustainable growth for the sector as set out in Food ~~Wise 2025~~ Vision 2030.	No adverse effects on the integrity of European Sites.	No
NSO 4- High-Quality International Connectivity	• Under *Airports* the following NSOs have been revised as follows:	Adverse effects on the integrity of European Sites.	Yes

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	– ~~The development of additional runway and terminal facilities such as the second runway for Dublin Airport for which planning permission has been approved~~ – The development and enhancement of modern, technologically-advanced, cost-efficient infrastructure at our State airports to enhance safety and security, to reduce environmental impact, and to maintain and develop international connectivity; – Enhancing land-side public transport access~~, particularly in public transport terms, such as~~ through the MetroLink and BusConnects projects in Dublin; • Under *Ports*, the following NSOs have been revised as follows: – ~~Improve~~ Maintain and enhance land transport connections to the major ports including: – Facilitating the growth of Dublin Port and innovative land use models ~~such Dublin Inland Portthrough greater efficiency, limited expansion into Dublin Harbour and improved road access, particularly to/from the southern port area~~; – Enhanc~~ing~~ road connectivity to Rosslare Europort and Shannon-Foynes Port, ~~including local by passes;~~ and – ~~Improving~~ Provide motorway ~~access~~ connectivity to Ringaskiddy Port.		
NSO 5- Sustainable Mobility	Under Public Transport, the following NSOs have been revised as follows: – Deliver ~~the~~ key public transport objectives of the Transport Strategy for the Greater Dublin Area 2024~~16~~-2042~~35~~ by investing in projects such as MetroLink, DART+, Luas and BusConnects in Dublin and Eastern Region and key light rail and bus-based projects identified by the NTA in the other cities and towns, – Provide public transport infrastructure and services to meet the needs of regional growth centres, key towns, large towns and smaller towns, villages and rural areas, – Improve connections and walking routes in accordance with the principles of universal design so as to optimise journeys undertaken by foot and enhance pedestrian comfort and safety, – Enable more effective traffic management within and around cities and towns through demand management measures including the re-allocation of inner city road-space in favour of bus-based public transport services and walking/cycling facilities; – Deliver Transport Orientated Development at scale at suitable brownfield and greenfield locations in cities and	Adverse effects on the integrity of European Sites.	Yes

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	metropolitan areas, along high capacity public transport corridors with a focus on land management, institutional and funding arrangements needed to accelerate this type of development.		
NSO 6- A Strong Economy Supported by Enterprise, Innovation and Skills	Under Supporting Entrepreneurialism and Building Competitive Clusters, the following NSOs have been revised as follows: – Transforming firms in the regions for long-term success through a focus on productivity, innovation and internationalisation and building competitive regional clusters in manufacturing and services, in collaboration with the higher and further education sectors. ~~with an enhanced role for Institutes of Technology in developing 'Technology and Innovations Poles'~~ – Increasing the competitiveness of the business environment in the regions, through ~~the Regional Action Plans for Jobs~~ Regional Enterprise Plans, ~~Brexit specific~~ tailored responses for ~~exposed~~ sectors exposed to external market shocks, ~~in the regions and~~ regional enterprise competitive funding initiatives through EI and advance property solutions for new investment by IDA Ireland for inward investment and indigenous enterprise at suitable locations, integrated with planning for housing growth. – Further d~~D~~eveloping challenge-based Disruptive Technologies ~~i~~Initiatives to ensure that we stay at the forefront of technological innovation, market application and commercialisation and can spur the next generation of technology-led enterprises, drawing on R&D activities in the higher education sector and enterprise in the regions. – Smart Specialisation will encourage the maximising of sectoral strengths through clustering and the scaling of Ireland's existing areas of research excellence. • Under Digital and Data Innovation, the following NSOs have been revised as follows: – Enhancing international fibre communications links, including full interconnection ~~between the~~with fibre networks in Northern Ireland ~~and the Republic of Ireland~~. – Promotion of Ireland as a sustainable international destination for ICT infrastructure~~s such as data centres~~ and associated economic activities.	Adverse effects on the integrity of European Sites.	Yes
NSO 7- Enhanced Amenities and Heritage	Under *Amenities and Heritage*, the following NSOs have been revised as follows: – The Rural and Urban Regeneration and Development Funds ~~will~~ support transformational public realm initiatives to give city and town centre areas back to citizens, encouraging greater city and town centre living, enhanced recreational spaces and attractiveness from a cultural, tourism and promotional perspective.	Adverse effects on the integrity of European Sites.	Yes

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	– The European Regional Development Fund (ERDF) will support projects that promote the conservation and adaptive reuse of our vacant built heritage stock and drive the regeneration of cities and towns through the Town Centre First Heritage Revival (THRIVE) scheme for the period 2021 - 2027. – We ~~w~~ill conserve, manage and present our heritage for its intrinsic value and as a support to economic renewal and sustainable employment		
NSO 8- Transition to a Low Carbon and Climate Resilient Society	Under *Green Energy*, the following NSOs have been revised as follows: – Deliver ~~40~~80% of our electricity needs from renewable sources by ~~2020~~ 2030 with a strategic aim to increase renewable deployment in line with EU targets and National policy objectives out to 2030 and beyond. It is expected that this increase in renewable deployment will lead to a greater diversity of renewable technologies in the mix. – District heating networks will be developed, where technically feasible and cost effective, to assist in meeting renewable heat targets and reduce Ireland's GHG emissions.	Adverse effects on the integrity of European Sites.	Yes
NSO 9- Sustainable Management of Water and other Environmental Resources	• Under *Water*, the previous NSOs have been replaced with the following: – Substantial State investment, through Uisce Éireann and the Rural Water Programme, to improve compliance with public health and environmental standards, with particular reference to the River Basin Management Plan for Ireland. – Bringing and maintaining public water and wastewater services to acceptable international benchmarks, verified by independent monitoring and reporting. – Achieving improved outcomes in quality in respect of drinking water and in wastewater in relation to rural and private water services. – Adopting forward planning and risk management approaches to minimise the impact of non-compliances with all relevant EU Directives and to safeguard against future compliance risks. – Embedding conservation at the heart of water policy involves prioritising resource management, abstraction control, source protection, tackling leakage and encouraging behavioural change. – The promotion of water conservation and water resource management is to be reflected in strategic investment planning by Uisce Éireann, to include work programmes around leak detection and repair, network improvements, cost effective metering, public awareness campaigns and funding to fix customer side leaks.	No adverse effects on the integrity of European Sites.	No

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	– Water conservation will inform the Working Group on the review of rural water services, and investment decisions in this area. – Ensuring that public and private water services investment decisions are aligned with the broad strategic aims of the NPF. – Adapting water services to withstand the impact of climate change and of such weather-related events. – Improving the resilience of rural and private water supplies as part of the review of rural water services currently underway. – Ensuring the growth of our five cities of Dublin, Cork, Galway, Waterford and Limerick, together with the regional centres identified in the NPF, is supported by the provision of water services investment; – Devising detailed network and capacity assessments to support the provision of water services infrastructure that facilitates housing and economic development in the priority towns and urban areas identified in the Regional Spatial and Economic Strategies, in order to ensure plan-led development decisions are underpinned by coordinated investment plans and – Supporting the growth of identified settlements where these are prioritised in development plan core strategies at a county/city level. • Under *Effective Waste Management*, the previous NSOs have been replaced with the following: – enhanced use of civic amenity sites as circular economy hubs; and – supporting the development of indigenous waste treatment capacity to reduce reliance on export. – Regional Spatial and Economic Strategies and the core strategies of MASPs and city and county development plans will support national and regional waste policy and the efficient use of resources; ~~– District heating networks will be developed, where technically feasible and cost effective, to assist in meeting renewable heat targets and reduce Ireland's GHG emissions;~~ – Biological treatment and increased uptake in anaerobic digestion with safe outlets for bio stabilised residual waste		
NSO 10- Access to Quality Childcare,	• Under *Education*, the following NSOs have been revised: – Expand and consolidate third-level facilities at locations where this will further strengthen the capacity of those institutions to deliver the talent necessary to drive economic	No adverse effects on the integrity of European Sites.	No

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
Education and Health Services	and social development in the regions. ~~The consolidation of the DIT campus at Grangegorman is a critical flagship infrastructural project for the higher education sector;~~ – Investment in higher and further education and training will be a key driver of Ireland's competitiveness. The NPF is aligned with the National Strategy for Higher Education to 2030, and the Future FET: Transforming Learning The National Further Education and Training (FET) Strategy. The development of programmes for life-long learning, especially in areas of education and training where skills gaps are identified by employers and the further and higher education and training system, working together through Regional Skills fora, in responding to the skills needs of their regions. • Under *Health- Healthy Communities and Healthcare Services in the Community*, the following NSOs have been added/revised: – A nationally overarching priority for the health of the population is achieving the objectives of Healthy Ireland and the implementation of the successor to the National Physical Activity Plan, to support active mobility and equitable access to physical activity opportunities, and Healthy Cities and Counties programme, delivered through local authorities. – Health and Wellbeing Projects and prevention programmes including the BreastCheck Services and the ongoing fluoridation programme of works. – Expanding Community and Primary Care is at the heart of the Sláintecare vision. The development of Primary Care Centres (PCCs) is an important part of this vision. This will include the appropriate provision of PCCs, and accommodation based on local service and population needs. Expansion of primary care will involve refurbishments of existing buildings and where necessary new builds. – Delivery of the Enhanced Community Care (ECC) Programme which aims to move greater levels of care out of the acute hospital system and deliver care close to peoples' homes, allowing patients to remain at home and in their community for as long as possible. – Continue the transformation of the National Ambulance Service (NAS) from a service that has traditionally transported all patients to hospital for treatment, to a delivery model that is clinically led, where care is provided in the most appropriate place. – ~~Facilitating the transformation of healthcare delivery by investing in ICT infrastructure, to facilitate the flow of information across and within various care settings, and increasing the capacity of primary care, including:~~		

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	~~Provision of primary care centres on a national basis to match population changes including new builds and refurbishments of existing buildings; and~~ ~~Expansion of community diagnostics and minor surgery.~~ • Under Health- Services for Older People – The Irish Government's strategic goal is to deliver a new model of integrated older persons health and social care services, across the care continuum supporting older people to remain living independently in their own homes and communities for longer in line with the Sláintecare. It is recognised however that care provided in long term residential care settings will continue to be an important part of the continuum of care for older person people into the future. – Development of community based housing with supports by moving to new models of 'home-first' care for older people and 'Housing with Support' purpose-built, non-institutional, 'own front door' accommodation with support or care services in conjunction with the Department of Housing. – Continuing the National Age Friendly Programme delivering a range of policy supports with local government including transport, walkable streets and community activities and supporting Age Friendly Towns. Delivery of long-term residential care developments based on local need and located centrally in proximity to the community and local services. – Development of policy on the design and build for nursing homes, as well as other models of delivery of long-term care for older people to support them to remain living independently in their communities. • Under Health- Integrated Health and Social Care Services, the following NSOs have been added: – Health infrastructure is not just about property and buildings. It is also about the technologies, digital and data sharing capabilities that are needed to provide integrated care. These capabilities must be planned along-side infrastructure including how to leverage digital and technologies to include virtual and digitally enabled care built on a solid foundation of trust, privacy, and cyber resilience. The Irish health service is underpinned by a vast technology landscape which is the largest ICT operating environment in the State. – Facilitate~~e~~ing the transition of ~~people~~ service users across services, providing multi-disciplinary care at the lowest level of complexity close to where people live. Focus on improving access to primary and community care services, including mental health, disability services, palliative care, services for older people, social inclusion and addiction support.		

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	– Implementing Adult Palliative Care Policy and integrated palliative care with services available in the Regions to all those who need them. • Under Health- Mental Health (A Vision for Change), the following NSOs has been deleted/added: ~~– Development of the National Forensic Mental Health Services Hospital and a network of Intensive Care Rehabilitation Units.~~ ~~– Enhanced infrastructure for community mental health teams.~~ – Implementing the national Mental Health policy "Sharing the Vision 2020-30" the national suicide reduction policy "Connecting for Life" and the upcoming revision of Mental Health Act. These policies are both in implementation phase and include the delivery of timely and accessible care that reflects a more whole-of-government approach, allied to person-centered and recovery orientated principles. – Incorporation of the planned extension of Mental Health Commission regulation of community Mental Health services (under the new Mental Health Act) which will require significant built environment enhancement. • Under *Health- Acute Hospital Services*, the following NSOs have been added/revised: ~~– Delivering improved acute hospital services through the implementation of strategies and policies such as the National Maternity Strategy and the National Cancer Control Programme, and a wide range of programmes and projects including the following:~~ – Continued development of services and infrastructure (acute, cancer, trauma, maternity,) which will be informed by strategy and population requirements as outlined in overall approach to health service planning. There has been significant investment in services and capacity, with further investment and expansion of capacity being informed by population and service requirements across the country. – Delivery of t~~T~~he national ~~p~~Paediatric model of care and, in particular, construction of the new National Children's Hospital~~, associated satellite care units and the associated ICT infrastructure required to form Ireland's first digital hospital~~ comprising of the main hospital on the shared campus at St James's and the now completed two Paediatric Outpatient and Urgent Care Centres at CHI Connolly, Blanchardstown, and CHI Tallaght – Implementation of the new Elective Care Centre Projects and Surgical Hubs, which will provide significant additional capacity and enable the separation of scheduled and unscheduled care.		

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
	– ~~Implementation of the National Maternity strategy; this includes co-location of the National Maternity Hospital and other standalone maternity hospitals to acute hospital campuses and development, upgrading and remodelling of maternity services infrastructure;~~ – ~~Building additional capacity designed for maximum effectiveness and targeted at enhancing ambulatory care and elective care, to reflect the scale of population growth and ageing, in line with identified service needs;~~ – ~~Reconfiguration of acute services within hospital groups;~~ – ~~Expansion of the Ambulance fleet and expanded ambulance bases to support prehospital care and timely access to critical services. As part of this, consideration will need to be given to how access to air support can be improved into the future;~~ – ~~Implementation of the National Cancer Control Programme, including development of capital infrastructure for the delivery of cancer services, in particular medical oncology day units, aseptic compounding units, radiation oncology and equipment replacement;~~ – ~~The National Plan for Radiation Oncology (Dublin, Cork and Galway) is essential to delivering on required radiation oncology capacity, with some current facilities nearing the end of their useful life;~~ – ~~Investment in the designated cancer centres, including facilities, would include a goal of developing at least one comprehensive cancer centre as set out in the National Cancer Strategy launched in 2017.~~		

Assessment of Adverse Effects on Integrity

Adverse effects on integrity with respect to NSO and NSO. Mitigations required to address these effects.

NSO 1: Compact Growth

This NSO is unchanged from the original NPF. However, there have been key changes in biodiversity legislation, policy, guidance, and the evidence base since the original policy was published and assessed. These key changes are described in the assessment for NPO2 (See Section 6.4.3). Actions and activities arising from this strategic outcome to achieve urban infill development in greater densities, building existing capacity, improving connectivity, and enabling modal shift could result in adverse effects on the integrity of European Sites and contribute to existing threats and pressures on these European Sites. Given the uncertainty regarding the scale and locations of such enabling infrastructural development and in the absence of mitigation, **it is concluded that adverse effects on European Sites will occur due to NSO1 in the absence of mitigation.**

NSO 2: Enhanced Regional Accessibility

The proposed revisions under Inter Urban Roads and Public Transport reflect that the previously referenced project is in operation and is therefore replaced with the reference to a current transport project. The new addition under cycling relates to development of cycle network across cities, towns, and key tourist destinations. includes no spatial locations for any of the plans or project which will be facilitated by this policy. As similarly assessed for NPOs related to enhanced transport connectivity, there is potential for plans or projects arising from this strategic outcome could result in adverse effects on the integrity of European Sites; particularly given that some of the plans or projects may be facilitating route development through adjacent or with connectivity to European Sites resulting in direct impacts (*e.g.* habitat loss or deterioration) and indirect impacts such as new or increased disturbance in areas currently not subject to such

NSO Reference	2024 Outcome	Assessment	Mitigation Required?

disturbances and impacts from emissions. **NSO2 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 3: Strengthened Rural Economies and Communities

Rural Development: Proposed revisions are minor and reflect updated references in relation to policy instruments, the impacts of which are discussed as part of the assessment of the relevant NPOs. Therefore, these revisions are not considered as significant and no impact on European Sites is expected. Our Rural Future: Rural Development Policy 2021-2025 sets out a vision for a thriving rural Ireland which is integral to national economic, social, cultural, and environmental wellbeing and development. This is to be achieved through the delivery of 152 measures. The Rural Development Policy acknowledges that any measures giving rise to, or potentially giving rise to, environmental impacts, will therefore be subject to screening and further consideration under Strategic Environmental Assessment (SEA) and/or Appropriate Assessment (AA), and Flood Risk Assessment, as appropriate. **NSO3 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 4: High-Quality International Connectivity

Airports: The ongoing development and enhancements at the State airports, and the requirement for enhanced public-transport connectivity to the terminals, is likely (as was similarly assessed for NPOs related to enhanced international connectivity), as a result of potential effects such as emission to air and water, contributions to climate change and species disturbance/displacement, to result in adverse effects on the integrity of European Sites, in the absence of mitigation.

Ports: All of the ports mentioned in the NPF are either encompassed within or directly adjacent to European Site(s). As such, this NSO have the potential to impact on European Sites, as was similarly assessed for NPOs related to enhanced international connectivity. All projects relating to the enhancement, maintenance, or provision of ports infrastructure mentioned in the NPF are currently or will be subject to project-level AA as part of the planning process.

NSO4 will result in adverse effects on the integrity of European Sites in the absence of mitigation.

NSO 5: Sustainable Mobility

Public Transport: The Metropolitan Area Transport Strategies for Cork, Limerick, Galway, and Waterford, the Transport Strategy for the Greater Dublin Area 2024-2042, NTA's Active Travel Investment Programme acknowledge the requirement for public transport infrastructure projects need to sustain and increase mobility in Ireland's urban hubs. The construction and operation of the infrastructure required to realise the objectives of these schemes has the potential for significant effects on European Sites, in the absence of mitigation. **NSO5 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 6: A Strong Economy Supported by Enterprise, Innovation and Skills

Supporting Entrepreneurialism and Building Competitive Clusters: The clustering and scaling of Ireland's existing areas of research excellence, through the development of Regional Enterprise Plans, is unlikely to have direct significant effects on European Sites. However, the objective of continuing to support start-up businesses and small-to-medium enterprises could indirectly impact on European Sites should increase growth demand larger premises, associated infrastructure, etc. Further to this, and as integrated with planning for house growth, thriving regional business will require the strategic housing development, with construction having potential ramifications for European Sites.

Sustaining Talent and Boosting Human Capital In All Regions: The Department of Further and Higher Education, Research, Innovation and Science is leading a whole of government approach to the implementation of Ireland's National Research and Innovation Strategy, Impact 2030, so as to ensure the national research and innovation system supports key Government strategies such as the White Paper for Enterprise, the Climate Action Plan, and Smart Specialisation of regions. The construction of student accommodation to support the aforementioned and the expansion, upgrading, and refurbishment of Higher Education Institutes could potentially have significant effects on European Sites, in the absence of mitigation.

Digital and Data Innovation: The infrastructure to support the continued rollout of Ireland's National Broadband Plan to deliver step-change in digital connectivity and coverage to remote areas, including villages, rural areas, and islands, could, through construction processes, have significant effects on European Sites. Additional strategies, such as Industry 4.0 Strategy 2020-2025 and AI – Here for Good: National Artificial Intelligence Strategy for Ireland set out a roadmap to ensure that the State remains at the forefront of technological adoption and may also require the provision of new infrastructure to do so, resulting in further potential impacts on European Sites.

NSO Reference	2024 Outcome	Assessment	Mitigation Required?

NSO6 will result in adverse effects on the integrity of European Sites in the absence of mitigation.

NSO 7: Enhanced Amenities and Heritage

Amenities and Heritage: As supported by the Rural and Urban Regeneration and Development Funds, enhancement of public recreational spaces and the urban fabric of Ireland's cities and towns, as well as the regenerative conservation and adaptive reuse of vacant built heritage stock through the Town Centre First Heritage Revival (THRIVE) scheme has the potential to result in adverse effects on European Sites, in the absence of mitigation. **NSO7 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 8: Transition to a Low Carbon and Climate Resilient Society

Provision of renewable infrastructure has potential to impact on European Sites as a result of collisions with avifauna, water pollution as a result of release of suspended solids, disturbance of fauna, and loss of habitat. NSO 8 also supports the growth and development of efficient district-heating networks, where feasible and cost effective. However, given that the nature or locations of this growth and development is not defined by this objective, it is considered that NSO 8 could, in this regard, result in potential adverse effects on the integrity of European Sites, in the absence of mitigation. **NSO8 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 9: Sustainable Management of Water and other Environmental Resources

Water: In line with compact growth objectives, the provision of water services investment to support the growth of Ireland's five cities of Dublin, Cork, Galway, Waterford, and Limerick, and the development of the necessary infrastructure to do so, has potential for significant effects on European Sites through habitat destruction, fragmentation, degradation, species mortality and disturbance, air and water pollution, the introduction of invasive species, etc. Further investments, through Uisce Éireann and the Rural Water Programme, to improve compliance with public health and environmental standards and provide adequate water servicing and maintenance to rural areas also poses a similar risk to European Sites, through any required infrastructural development. The policy objectives and priorities of the Government regarding the provision of water services are set out in the Water Services Policy Statement 2018-2025 as provided for under Section 32A of the Water Services (No.2) Act 2013 (as amended). **NSO9 will result in adverse effects on the integrity of European Sites in the absence of mitigation.**

NSO 10: Access to Quality Childcare, Education and Health Services

Education: No significant effects on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructure provision is identified at a regional or local level, any such development will be subject to project-level AA as part of the planning process.

Health – Healthy Communities and Healthcare Services in the Community: No impacts on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructure provision is identified at a regional or local level, AA will be required.

Health- Integrated Health and Social Care Services: No impacts on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructure provision is identified at a regional or local level, AA will be required.

Health- Services for Older People: No impacts on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructure provision is identified at a regional or local level, for such item as the provision of accommodation, AA will be required.

Health- Mental Health (A Vision for Change): No impacts on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructure provision is identified at a regional or local level, AA will be required.

Health - Acute Hospital Services: No impacts on European Sites are anticipated as a result of this strategic outcome. Where a requirement for future infrastructural provision is identified at a regional or local level, for such items as the hospital, services and infrastructure, Elective Care Centre Projects, and Surgical Hubs, AA will be required.

Mitigation of Adverse Effects on Integrity:

The suite of mitigation measures identified to address the adverse effects of the policies considered under Chapter 2 to 10 are also applicable to addressing the adverse effects on the integrity of European Sites identified with respect to NSO 1, NSO 2, NSO 3, NSO 4, NSO 5, NSO 6, NSO 7, NSO 8, NSO 9, and NSO 10. This includes (i) the existing commitment to environmental assessment, (ii) overarching mitigations, and (iii) the policy-specific mitigations.

NSO Reference	2024 Outcome	Assessment	Mitigation Required?
Subject to the application of the above mitigation, it is concluded that neither NSO 1, NSO 2, NSO 3, NSO 4, NSO 5, NSO 6, NSO 7, NSO 8, NSO 9, and NSO 10 alone, will not result in an adverse effect on the integrity of any European Site(s) or their designated QIs or SCIs, with reference to their Conservation Objectives.			

6.5 In Combination Effects

The assessment of potential in-combination effects of the NSO and NPO of the draft first revision NPF with respect to other relevant plans or projects has been completed with reference to EC guidance[44]. With reference to Section 4.2 of that guidance, a proportionate approach has been taken with respect to the in-combination assessment. This approach has been mindful that the draft first revision NPF is a national plan which sets out NSO and NPO that are commensurate with the level of detail included within such a plan. It recognises that it provides a framework for planning but where the detail of plans and projects which will come forward as a result of the framework will only be developed following the adoption of and under the policy framework established by draft first revision NPF. The assessed plans are provided in **Table 6-3**.

In line with EC guidance, a stepwise approach has been taken to consideration of in-combination effects as follows:

- Identify plans / projects that might act in-combination;
- Identify the types of impact that might occur;
- Define boundaries of the assessment;
- Identify pathways for impact; and
- Impact prediction and assessment.

[44] 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 (2021).

Table 6-3: Assessment of In-Combination Effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
EU and International		
8th Environmental Action Programme (2021-2030) The 8th EAP aims to accelerate the transition to a climate-neutral, resource-efficient, and regenerative economy. It recognises that human wellbeing and prosperity depend on the healthy ecosystems within which we operate and sets out six priority objectives (i) climate neutrality by 2050 (ii) reducing vulnerability to climate change (iii) circular economy (iv) zero-pollution ambition (v) enhancing natural capital and (vi) reducing environmental and climate pressures.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Disturbance to habitats/ species.	As the EAP is aimed at environmental action protection, there is a potential for positive in-combination effects.
The EU Biodiversity Strategy to 2030 The new Biodiversity Strategy to 2030 aims to put Europe's biodiversity on the path to recovery by 2030 for the benefit of people, climate, and the planet. In the context of the post-COVID-19 pandemic, it aims to build resilience to future threats, including climate change, security of food supplies, forest fires, outbreaks of disease, and combating the illegal trade in wildlife. It aims to increase the Natura 2000 network and will launch an EU restoration plan by the end of 2021. To enable implementation, it also aims to allow better tracking of progress, improving knowledge transfer, and emphasising 'respect for nature' in public and business decision-making.	• Increased resilience in habitats and species, including through restoration actions; • Improved water quality; and • Improved air quality.	There is no potential for in-combination effects arising from this strategy as the primary purpose of the EU Biodiversity Strategy is to halt the loss of habitat and species. Climate change, identified as a key threat to biodiversity, and transition to renewable energy resources will, in part, respond to climate change and it's impacts and effects.
2030 EU Climate and Energy Framework (2014) Sets targets for the period 2020 to 2030: • Target of 27% renewable energy in the EU; • Increase energy efficiency by 27% by 2020; and • Reaching electricity interconnection target of 15% between EU countries by 2030.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The targets for the 2030 EU Climate and Energy Framework focus on the transition to renewable energy, which will positively influence the achievement of emission-reduction goals. The overall drive is to increase the use of renewable energy, increase energy efficiency and, therefore, the framework contains measures aimed at increasing electricity interconnection. The framework supports decarbonisation and, as such, the main thrust of the framework is positive as it addresses climate change aspects. However, renewable energies, such as wind

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
		energy, have the potential for adverse effects on European Sites and protected species. Projects arising from the framework will be subject to SEA and AA processes. Therefore, there is no potential for in-combination effects with the draft first revision to the NPF.
Paris Agreement (COP21) (adopted 2015) The Paris Agreement (COP21) has an overreaching goal to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels". The Paris Agreement requires economic and social transformation based on best-available science to limit global warming. To achieve this goal, signatories of the Paris Agreement are required to set goals and targets in line with the increasingly ambitious climate action stipulated in the Agreement.	• Reduction in greenhouse gas emissions; • Improved air quality; and • Climate change adaptation.	The Paris Agreement is the overarching policy which encourages the development and submission of each nation's Climate Action Plan. As such, there is no potential for in-combination effects with this policy, though the Paris Agreement does help to guide these nationally determined contributions.
EU Green Deal 2050 In response to the challenges facing Europe, the European Green Deal was adopted for the EU in December 2019. Termed a new growth strategy based on clean products and technologies, the European Green Deal is committed to working towards a climate-neutral society by 2050. It has an action plan/roadmap of actions, of which the key objectives are to: increase the efficient use of resources by moving to a clean, circular economy; as well as to restore biodiversity and cut pollution. It also aims to support innovation of industry to increase circularity.	• Increased resilience in habitats and species; • Improved habitat and species protection; and • Improved air quality.	The EU Green Deal 2050 aims to promote the achievement of a climate-neutral society by 2050 by encouraging the advancement in green technology and the transition into a circular economy. There is potential for positive in-combination effects going forward.
Circular Economy Action Plan 2020 This Action Plan maps out 54 actions, as well as four legislative proposals on waste, containing targets for landfill, reuse, and recycling, to be achieved by 2030 and 2035 and introducing new obligations, such as separate collection of municipal textile and biowaste. The plan aimed to cover the full economic cycle from production to	• Alterations to water quality; and • Alteration to air quality; and • Improved waste management.	The Circular Economy Action Plan 2020 aims to promote more-efficient management of waste and develop more-effective reuse and recycling methods towards the achievement of a circular economy. Therefore, there is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
consumption, repair and remanufacturing, to waste management and secondary raw materials.		
Energy Roadmap 2050 This roadmap does not set specific energy targets at this point but does aim to achieve an 80% to 95% reduction in greenhouse gases compared to 1990 levels by 2050.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The key aim of the Energy Roadmap 2050 is to serve as a guide to a low-carbon Europe. This plan will be complimentary to the draft first revision to the NPF and, as such, there is no potential for in-combination effects. There is, however, potential for positive influence.
Action Plan 2.0 for a Maritime Strategy in the Atlantic area (EC, 2020) This is the successor to the EU's Atlantic Action Plan 2013-2020. This is "*An updated action plan for a sustainable, resilient and competitive blue economy in the European Union Atlantic area*." It covers four pillars of: ports as gateways and hubs for the blue economy; blue skills of the future and ocean literacy; marine renewable energy; and healthy ocean and resilient coasts. Under the third and fourth pillars are the environmental goals of: Goal 5: 'The promotion of carbon neutrality through marine renewable energy', Goal 6 'Stronger coastal resilience' and Goal 7 'The fight against marine pollution'.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The Action Plan 2.0 for a Maritime Strategy in the Atlantic area aims to plan for a sustainable, resilient, and competitive blue economy in the European Union Atlantic area including goals to promote marine renewable energy, enhance coastal resilience, and tackle marine pollution. There is potential for positive in-combination effects going forward.
Renewable Energy Directive [RED] EU 2018/2001 (recast to 2030, RED II) This Directive came into force in December 2018 and sets a target of at least 32% for renewable energy, at EU-wide level, by 2030. The proposal to revise this directive in July 2021 seeks to raise the level of ambition to deliver on the Green Deal and intends to revise this target to at least 40% by 2030.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The Renewable Energy Directive sets a target of at least 32% for renewable energy and, as such, the main thrust of the Directive is positive as it addresses climate-change aspects. However, renewable energies, such as wind energy, have the potential for adverse effects on European Sites and protected species. Projects arising from the plan will be subject to SEA and AA processes. Therefore, there is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
Renewable Energy Directive [RED] EU 2018/2001 (recast to 2030, RED III) The revised directive (RED III) was published in the Official Journal on 31 October and entered into force on 20 November 2023. It sets an overall renewable energy target of at least 42.5% binding at EU level by 2030 - but aiming for 45%.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The Renewable Energy Directive sets a revised and more ambitious target of at least 42.5% for renewable energy and, as such, the main thrust of the Directive is positive as it addresses climate-change aspects. However, renewable energies, such as wind energy, have the potential for adverse effects on European Sites and protected species. Projects arising from the plan will be subject to SEA and AA processes. Therefore, there is no potential for in-combination effects.
REPowerEU Plan (EC, 2022) This plan is focused on rapidly reducing the European Union's reliance on Russian fossil fuels by progressing the clean energy transition and fostering increased collaboration throughout and across Member States to create a more resilient European energy system. REPowerEU expands the 'Fit for 55' proposals by setting out additional actions to save energy by reducing demand and consumption, diversify energy sources and supplies, accelerate fossil fuel substitution, and improve investment frameworks facilitating reforms, faster permitting, and innovation.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The REPowerEU Plan supports the reduction of the EU's reliance of Russian fossil fuels by progressing the clean-energy transition and, as such, the main thrust of the Plan is positive as it addresses climate-change aspects. However, renewable energies, such as wind energy, have the potential for adverse effects on European Sites and protected species. Projects arising from the plan will be subject to SEA and AA processes. Therefore, there is no potential for in-combination effects.
EU Water Framework Directive (2000/60/EC) and draft River Basin Management Plan for Ireland 2022-2027 The primary purpose of this Directive and the various pieces of national legislation that have been implemented through the implementation of River Basin Management Plans, is to achieve good status for all water bodies, with no deterioration in water body status. The RBMP sets out the Programmes of Measures (PoM) to achieve the objectives of the Water Framework Directive (WFD).	• Habitat loss or destruction; • Habitat degradation; • Habitat Rehabilitation / Enhancement; • Habitat/species fragmentation; • Disturbance to key species; • Changes to favourable conservation status of key species; • Changes in key indicators of conservation value (water quality etc); • Climate change; and • In-combination impacts.	The primary purpose of the EU Water Framework Directive is to protect and, where necessary, restore water bodies in order reach good status, and to prevent deterioration, and includes achievement of objectives of the Habitats and Birds Directive. The 3rd cycle of River Basin Management Plan for Ireland 2022-2027 has been published with a NIS, including mitigation to offset negative effects. Therefore, there is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
UK Marine Policy Statement (MPS, 2011)[45] The MPS is the framework for preparing Marine Plans and taking decisions affecting the marine environment in the UK. It contributes to the achievement of sustainable development in the UK marine area. The MPS and Marine Plans sets out a plan-led system in the UK for marine activities. Further guidance with respect to the MPS was published during January 2021 following the UK's exit from the European Union[46]. Separate Marine Plans have subsequently been published for UK marine waters; these include those under Northern Ireland and Welsh jurisdictions.	• Habitat loss or destruction; • Habitat degradation; • Habitat Rehabilitation / Enhancement; • Habitat/species fragmentation; • Disturbance to key species; • Changes to favourable conservation status of key species; • Changes in key indicators of conservation value (water quality etc); • Climate change; and • In-combination impacts	The Marine Policy Statement (MPS) has been subject to, and informed by, an Appraisal of Sustainability (AoS), which incorporated the requirements of a Strategic Environmental Assessment (SEA). The MPS was also subject to a Habitats Regulation Assessment (HRA; equivalent to Natura Impact Statement) with reference to the EU Habitats Directive. The HRA concluded that it was not possible to exclude the possibility that the integrity of one or more European Sites could be adversely affected by activities identified in the MPS. For that reason, an assessment of alternative solutions and Imperative Reasons of Overriding Public Interest (IROPI) was undertaken. The MPS states that all marine plans and projects carried out in accordance with the MPS may be subject to the Appropriate Assessment procedure. If, following this procedure, an Appropriate Assessment is required and this concludes that the marine plan or project may affect the integrity of any European Site, issues relating to IROPI, site integrity and compensation would need to be addressed in accordance with the relevant legislation and European Commission guidance (which was applicable at the time the MPS was prepared). Since the MPS was published and assessed, the UK is no longer a Member State of the EU. However, the assessment process remains broadly similar. The UK Marine Plans for Northern Ireland and Wales have all subsequently concluded that the activities emerging from those Plans will have no adverse effects on the integrity of any European site. Therefore, there is no potential for in-combination effects with the draft first revision of NPF, recognising that this will need to also be considered by any project-level assessment completed for projects emerging from the draft first revision of NPF.

[45] https://assets.publishing.service.gov.uk/media/5a795700ed915d042206795b/pb3654-marine-policy-statement-110316.pdf

[46] Guidance to the UK Marine Policy Statement from 1 January 2021 - GOV.UK (www.gov.uk)

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
Marine Plan for Northern Ireland (Draft; April 2018)[47] The Marine Plan for Northern Ireland introduced a strategic approach to planning within the Northern Ireland marine area. It helps to deliver at a regional level the high-level marine objectives set out in the UK Marine Policy Statement; as detailed above.	• Habitat loss or destruction; • Habitat degradation; • Habitat Rehabilitation / Enhancement; • Habitat/species fragmentation; • Disturbance to key species; • Changes to favourable conservation status of key species; • Changes in key indicators of conservation value (water quality etc); • Climate change; and • In-combination impacts.	The draft Marine Plan was subject to a Habitats Regulations Assessment (HRA) Screening[48], which concluded that the Marine Plan would not result in any likely significant effects, either alone or in combination with other plans and projects on any European sites with reference to their qualifying interests. Therefore, there is no potential for in-combination effects with the draft first revision of NPF.
Welsh National Marine Plan (November 2019)[49] The Welsh National Marine Plan for the inshore and offshore Welsh marine plan regions and has been prepared in conformity with the UK Marine Policy Statement. It includes sectoral policies with respect to energy, including offshore wind, and subsea cabling.	• Habitat loss or destruction; • Habitat degradation; • Habitat Rehabilitation / Enhancement; • Habitat/species fragmentation; • Disturbance to key species; • Changes to favourable conservation status of key species; • Changes in key indicators of conservation value (water quality etc); • Climate change; and • In-combination impacts	The Welsh National Marine Plan was subject to a Habitats Regulations Assessment (HRA)[50], which concluded that, subject to the mitigation measures identified through the HRA, the Welsh National Marine Plan would not result in any adverse effects on the integrity of any European Site. Therefore, there is no potential for in-combination effects with the draft first revision of NPF, recognising that this will need to also be considered by any project-level assessment completed for projects emerging from the draft first revision of NPF.
National		
Regional Spatial Economic Strategies (Commenced)	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species;	These plans will be subject to AA when prepared. The potential for in-combination effects is unclear as the plans are not developed at this stage. However, it is envisaged that the plans would contribute positively to the NPF by

[47] https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Marine%20Plan%20for%20NI%20final%2016%2004%2018.PDF

[48] https://www.daera-ni.gov.uk/sites/default/files/publications/daera/HRA%20Screening%20Report%20-%20March%202018.PDF

[49] https://www.gov.wales/sites/default/files/publications/2019-11/welsh-national-marine-plan-document_0.pdf

[50] https://www.gov.wales/sites/default/files/publications/2019-11/welsh-national-marine-plan-habitats-regulation-assessment.pdf

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
These are to replace the Regional Planning Guidelines. A key aspect of the planning and economic development role is that the work in formulating the new Spatial and Economic Strategy will be undertaken at the sub-regional areas, which correspond broadly to the eight former regional authority areas. These will be the building blocks for spatial and economic planning and statutory committees, involving the three Assembly members from these areas, together with outside interests.	• Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	outlining where sustainable growth is to be directed. As noted in this NIS, AA will be undertaken at all levels in the planning hierarchy, evolving alongside greater certainty/detail in proposals through the regional, county, and local levels and in all cases ensuring that the proposals are in keeping with the objectives of the Habitats Directive.
National Development Plan 2018-2027 The National Development Plan sets out the investment priorities that will underpin the implementation of the draft first revision of NPF. This will guide national, regional, and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The NDP is a high-level budgetary and finance document which identifies priorities for capital investment. Given the nature of the capital investment, the majority of the projects referenced and funded under the NDP have been or will be subject to EIA/AA. The NDP does not confer planning, it identifies strategic need.
Water Services Strategic Plan Irish Water has prepared a Water Services Strategic Plan (WSSP, 2015), under Section 33 of the Water Service No. 2 Act of 2013, to address the delivery of strategic objectives which will contribute towards improved water quality and WFD requirements. The WSSP forms the highest tier of asset management plans (Tier 1) which Irish Water prepare, and it sets the overarching framework for subsequent detailed implementation plans (Tier 2) and water services projects (Tier 3). The WSSP sets out the challenges we face as a country in relation to the provision of water services and identifies strategic national priorities. It includes Irish Water's short-, medium- and long-term objectives and identifies strategies to achieve these objectives. As such, the plan provides the context for subsequent detailed implementation plans (Tier 2) which will document the approach to be used for key water service areas such as water resource management, wastewater compliance, and sludge management. The WSSP also sets out the strategic objectives against which the Irish Water Capital Investment Programme is developed. The current version	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The WSSP has undergone SEA and AA, which highlighted the need for additional plan/project environmental assessments to be carried out at the tier 2 and tier 3 levels. No likely significant in-combination effects are envisaged.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
of the CIP outlines the proposals for capital expenditure in terms of upgrades and new builds within the Irish Water owned asset		
Water Services Strategic Plan 2050 (draft, May 2024) Uisce Éireann, as Ireland's national public water services provider, has published for consultation its draft Water Services Strategic Plan 2050 (WSSP 2050); which sets out its objectives and the means by which it aims to achieve them in the context of the significant challenges that are likely to be faced over the next 25 years. The draft Plan was published in May 2024 and consultation will run until July 2024. The WSSP 2050 is informed by a SEA and NIS. It is understood to replace the current WSSP.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The WSSP 2050 has undergone SEA and AA. The NIS for the WSSP 2050 has concluded no adverse effects on the integrity of any European Sites subject to the implementation of the mitigation identified within the NIS of the WSSP 2050. No in-combination effects are envisaged.
National Development Plan 2021-2030 (2021) The National Development Plan sets out the investment priorities that will underpin the implementation of the National Planning Framework (NPF). This will guide national, regional, and local planning and investment decisions in Ireland over the next two decades, to cater for an expected population increase of over 1 million people.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	Given the nature of the capital investment, most of the projects referenced and funded under the NDP have been, or will be, subject to EIA/AA. The NDP does not confer planning. It identifies the strategic need. There is no potential for in-combination effects.
National Implementation Plan for the Sustainable Development Goals 2022-2024 The National Implementation Plan for the Sustainable Development Goals sets out five strategic objectives and 51 actions, with 119 individual measures to increase Ireland's ambition and strengthen implementation structures to achieve the Sustainable Development Goals (SDGs).	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The National Implementation Plan for the Sustainable Development Goals aims to increase Ireland's ability to achieve the Sustainable Development Goals (SDGs). There is no potential for in-combination effects).
Offshore Renewable Energy Development Plans (OREDP I and draft OREDP II)	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality;	In the interim review of OREDP I, specific note is made of the development of the Atlantic Marine Energy Test Site. As some ESB cable needed to go through Natura 2000 site, an AA screening was completed, and underground

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
Published in 2014, this plan had set out key principles, policy actions, and enablers for delivery of Ireland's significant potential in this area. The plan provided a framework for the sustainable development of Ireland's offshore renewable energy resources. This plan is currently guiding the State's policy approach to achieving 5GW of ORE by 2030, mostly through fixed-bottom wind turbines in relatively shallow waters of up to 70 metres off the east and southeast coasts. The draft OREDP II will provide a high-level framework for the long-term, sustainable, and planned development of Ireland's immense wind, wave, and tidal renewable energy resources.	• Collison risk • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	options were applied to mitigate impacts on local wildlife and biodiversity. At project level, there is, therefore, evidence that statutory assessment is being undertaken. The draft OREDP II must have to have regard to the NMPF (see below) as a sectoral marine plan, including the marine protection policies included in the NMPF and this NIS. As such, there is no potential for in-combination effects.
National Marine Planning Framework (2021) The National Marine Planning Framework (NMPF) brings together all marine-based human activities for the first time, outlining the Government's vision, objectives, and marine planning policies for each marine activity.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The National Marine Planning Framework makes reference to the designation and initiation of Marine Protected Areas regimes. Similarly, to the National Planning Framework, there is a recognised need for responsible use of national marine resources. The plan was subject to AA/EIA, guided by best-scientific knowledge and policy, and there is no potential for in-combination effects.
Climate Action Plan 2023 (CAP23) This is the second annual update to Ireland's Climate Action Plan 2019. This plan is the first to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings. There are six vital high impact sectors that are focused upon in this plan: - Powering renewables - Building better - Transforming how we travel - Making family farms more sustainable - Greening business and enterprise Under powering renewables, the plan aims to accelerate the delivery of offshore wind and facilitate at least 7GW of offshore wind by 2030 (with 2 GW earmarked for green hydrogen production).	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; • Introduction or spread of invasive species; and • Climate resilience.	While there is potential for in-combination effects as it sets out actions which directly relate to the draft first revision of NPF, CAP23 was subject to AA. Many of the policies are aligned with actions promoted through the draft first revision of NPF and similar sectoral plans, which include the necessary mitigation to avoid adverse effects. The main thrust of the plan, however, is positive, and there is potential for positive in-combination effects as it supports long-term resilience to climate change.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
Draft Climate Action Plan 2024 - This Climate Action Plan sets out further policies, measures, and actions to close this gap and ensure compliance with our carbon budgets and sectoral emissions ceilings as adopted by the Government in 2022.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Disturbance to habitats/species; • Alterations to air quality; • Alterations to water quality and/or water movement; • Introduction or spread of invasive species; and • Climate resilience.	While there is potential for in-combination effects as it sets out actions which directly relate to the draft first revision of NPF, CAP23 was subject to AA. Many of the policies are aligned with actions promoted through the draft first revision of NPF and similar sectoral plans, which include the necessary mitigation to avoid adverse effects. The main thrust of the plan, however, is positive, and there is potential for positive in-combination effects as it supports long-term resilience to climate change.
Regional Spatial and Economic Strategies (2020) The three regional strategies seek to interpret and implement the NPF at a regional level.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to water quality and/or water movement; • Alteration to air quality; and • Habitat/ species disturbance.	The three regional strategies include clear policy and supporting actions to avoid and minimise impacts on European Sites. They include similar commitments to only implement the policy base within the carrying capacity of the receiving environment as greater detail is known through the planning hierarchy. There is no potential for in-combination effects.
National Energy and Climate Plan 2019-2030 The plan brings together energy and climate planning and describes how Ireland will achieve the EUs main climate targets. The plan must cover the key areas of (i) energy security; (ii) internal energy market; (iii) energy efficiency; (iv) decarbonisation; and (v) research, innovation, and competitiveness.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to water quality and/ or water movement; • Habitat/species disturbance; and • Decarbonisation.	The National Energy and Climate Plan supports decarbonisation and, as such, the main thrust of the Plan is positive as it addresses climate-change aspects. However, renewable energies, such as wind energy, have the potential for adverse effects on European Sites and protected species. In the short-to-medium term, the move towards electrification of transport and heat will still rely on non-renewable sources of electricity generation. Projects arising from the Plan will be subject to SEA and AA processes. Therefore, there is no potential for in-combination effects.
Draft Updated National Energy and Climate Plan 2021-2030	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to water quality and/ or water movement; • Habitat/species disturbance; and • Decarbonisation.	The updated draft of the National Energy and Climate Plan continues to support decarbonisation and sets criteria for which policies and measures can be included in the modelling to help achieve climate and energy targets. As such, the main thrust of the Plan is positive, as it addresses climate-change aspects. However, renewable energies, such as wind energy, have the potential for adverse effects on European Sites and protected species. In the short-to-medium term, the move towards electrification of transport and heat will still rely on non-renewable sources of electricity generation. Projects arising from the Plan will be subject to SEA and

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
		AA processes. Therefore, there is no potential for in-combination effects.
National Climate Change Adaptation Framework The National Climate Change Adaptation Framework was published in 2018. It sets out how Ireland is to meet its adaptation objectives under the Kyoto Protocol and provides the policy context for the national response to achieving the objectives in a strategic manner. The Framework also requires Local Authorities, relevant agencies, and Government Departments to prepare and publish draft adaptation plans. With the establishment of the Climate Action and Low Carbon Development Act 2015, there is now a statutory basis on which National Climate Change Adaptation Frameworks and Sectoral Adaptation Plans are to be established. Under this, a suite of sectoral adaptation plans has been published in 2019.	• Increased resilience in habitats and species; • Improved habitat and species protection; • Improved air quality; • Reduction in greenhouse gases; and • Improved climate change resilience.	Given that the objectives of the Framework are to provide effective policy responses for Ireland to meet the overarching objectives within the Kyoto Protocol, there is potential for positive in-combination effects.
National Biodiversity Action Plan 2023 – 2030 (2024) In response to the requirements set out in Article 6 of the UN Convention of Biological Diversity 1992, the first Biodiversity Action Plan (BAP) was prepared by the Department of Arts, Heritage and the Gaeltacht and subsequently revised in 2011. The aims are to achieve Ireland's Vision for Biodiversity through addressing issues ranging from improving the management of protected areas to increasing awareness and appreciation of biodiversity and ecosystem services. Ireland's fourth iteration of the BAP for conserving and restoring Ireland's biodiversity covers the period 2023 – 2030.	• Increased resilience in habitats and species; • Increase national collaboration on the management of protected areas; • Biodiversity protection; and • Improve environmental research.	The National Biodiversity Action Plan aims at improving the conservation and protection of the country's biodiversity. There is no potential for in-combination effects.
Biodiversity Climate Change Sectoral Adaptation Plan (2019) The framework provides strategic focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change. There is a requirement for each government department to prepare	• Increase resilience in habitats and species; • Improved agricultural practices; • Water quality; and • Introduction or spread of invasive species.	The Biodiversity Climate Change Adaptation Plan aims to identify adaptation options that will help to protect biodiversity and ecosystem services from the impacts of changing climate and to enable ecosystems to play their role in increasing resilience to climate change. There is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
sectoral plans. The then Department of Culture, Heritage and the Gaeltacht has completed this in relation to Biodiversity. The Biodiversity CCAP sets out the key challenges for biodiversity and the actions needed to increase resilience of our native flora and fauna to the effects of climate change.		
NPWS Conservation Plans and/or Conservation Objectives for SACs and SPAs The NPWS produces a draft conservation plan for each SAC, SPA and NHA. Each plan lists the wildlife resources of the area, the current human uses, any conflicts between the two, and strategies for retaining the conservation value. These documents are made available on the NPWS website and to interested parties for a consultation period, following which the final version of the conservation plan is completed. It is intended that plans will be reviewed every 5 years. It is expected that these plans will be consulted/referenced during the preparation of management plans for any renewable energy development within and nearby the nature conservation site.	• Increase resilience in habitats and species; • Increase national collaboration on the management of protected areas; • Biodiversity protection; and • Improve environmental research.	Given Conservation Plans and/or Conservation Objectives for SACs and SPAs focus on the effective management of protected areas and wildlife resources, there is no potential for in-combination effects.
Bioeconomy Action Plan 2023-2025 The plan sets out an approach to using the wastes and side-streams from various sectors, such as agriculture, forestry, fisheries, and aquaculture. The aims are to support a circular and regenerative bioeconomy. Such a system has the potential to reduce GHG emissions and create new opportunities and diversification activities and the potential to replace fossil-fuel based resources with bio-based ones, such as the creation of bioenergy, biofertilisers, biopackaging, etc.	• Improved air quality; • Reduction in greenhouse gas emissions; • Improved food security; • Habitat fragmentation or degradation; • Disturbance to habitats/species; and • Changed in land use/land cover.	The plan sets out a number of actions related to education, developing initiatives/strategies, seeking funding, identifying markets/pathways, offering supports and developing opportunities related to bio-based products and services, and identifying training needs/skills. There is potential for positive in-combination effects as circular economy principles are in line with that supported by the first draft revision to the NPF.
National Biomethane Strategy (2024) The strategy sets out an objective of achieving 5.7 TWh of indigenous biomethane production by 2030, drawing on the development of a national anaerobic digestion industry along with increased agricultural diversification.	• Improved air quality; • Reduction in greenhouse gas emissions; • Improved food security; • Habitat fragmentation or degradation; and • Disturbance to habitats/species.	The National Biomethane Strategy has been subject to Appropriate Assessment which concluded that the Strategy would not have potential for adverse effects on European Sites. As such, there is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
It is estimated that the achievement of this target will offset a little over 10% of current usage of fossil gas and will rise to over 50% of our usage by the mid-2030s as we shift our economy further away from gas in favour of electrification.		
Ireland's Forest Strategy (2023-2030) This strategy sets out a cross-societal shared national vision for forestry in Ireland. The overarching strategic of the Forest Strategy are 'People, Planet and Prosperity'. These objectives have been established to develop an internationally competitive and sustainable forestry sector that provides a full range of economic, environmental, and social benefits to society into the future, and which aligns with the Forest Europe definition of sustainable forest management.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to water quality and/or water movement; • Alteration to air quality; and • Habitat/ species disturbance.	Ireland's Forestry Strategy will be subject to a Strategic Environmental Assessment and Appropriate Assessment. As such, there is no potential for in-combination effects.
Forestry Programme 2023-2027 This programme is the main implementation mechanism for the new Forest Strategy (2023 -2030) which reflects the ambitions contained in the recently published Shared National Vision for Trees, Woods, and Forests in Ireland until 2050. The programme contains eight mechanisms in its aim to deliver more diverse forest which will meet multiple societal objectives, economic, social, and environmental.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Alterations to water quality and/or water movement; • Alteration to air quality; and • Habitat/ species disturbance.	Despite the Forestry Programme 2023-2027 provides for significant afforestation and the provision for more diverse forestry, which could give rise to adverse impacts on European Sites, applications for Forestry Licenses to be submitted to DAFM are subject to Appropriate Assessment and, as such, there is no potential for in-combination effects.
Clean Air Strategy for Ireland (2023) The strategy aims to '*provide the strategic policy framework necessary to identify and promote the integrated measures across government policy that are required to reduce air pollution and promote cleaner air while delivering on wider national objectives'*. It sets out the detail of the seven strategic frameworks that will be used to ensure that air quality continues to improve. These frameworks include communications, monitoring, enforcement, legislation, policy developments, ambition and strong governance and targeted policy measures.	• Improved air quality; • Improved water quality; and • Increase resilience in habitats and species	The Clean Air Strategy for Ireland acknowledges the impacts that air pollution has on our environments, including those on biodiversity, water quality, and wider ecosystems services, and implements seven strategic frameworks to promote air quality improvements. There is no potential for in-combination effects arising from this strategy as the primary purpose of the Clean Air Strategy for Ireland is to promote improved air quality.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
National Policy Framework on Alternative Fuels Infrastructure in Transport 2017-2030 This policy framework communicates the Government's longer-term national vision for decarbonising transport by 2050, the cornerstone of which is the ambition that by 2030, all new cars and vans sold in Ireland will be zero-emissions capable. Reducing reliance on imported oils and switching to alternative fuels and technologies will be essential to decarbonise the sector.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Alterations to air quality; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The National Policy Framework on Alternative Fuels Infrastructure in Transport 2017-2030 has undergone AA and SEA, and a Natura Impact Statement was published in conjunction with the Framework. There is potential for positive in-combination effects in relation to the production and generation of alternative fuels which could have resultant impacts such as reduced air emissions. This Framework would not be expected to conflict with any aspects of the draft first revision to the NPF but positively contribute to reducing emissions arising from ORE development.
Energy Security in Ireland to 2030 Outlines a new strategy to ensure energy security in Ireland for this decade, while ensuring a sustainable transition to a carbon-neutral energy system by 2050.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Alterations to air quality; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	This energy security package sets out a strategic approach to ensure a secure transition for Ireland's energy systems in line with its climate objectives. It considers lessons, in particular, from the disruption to European energy supplies following the invasion of Ukraine and the domestic capacity shortfall experienced in the electricity sector. Six key pillars of analysis underpin the overall response and recommendations which are presented in Energy Security in Ireland, including a public consultation, and a range of external reviews and analyses which are published alongside the Energy Security Package. There is potential for positive in-combination effects as a view towards enhanced sustainability and reduced carbon emissions is in line with that supported by the first draft revision to the NPF.
Transmission Development Plan 2021-2030 This plan builds on the Grid Implementation Plan 2017-022 and contributes towards the continued development of a safe, secure, and reliable transmission system in Ireland and identifies, at a strategic level, key developments in the transmission system to take place over the next few years. One of its key strategy statements is to ensure a balanced approach to grid developments in consideration of all practical technology options.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Alterations to air quality; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	Our Transmission Development Plan 2021-2030 acknowledges that any measures giving rise to, or potentially giving rise to, environmental impacts, will, therefore, be subject to screening and further consideration under Strategic Environmental Assessment (SEA) and/or Appropriate Assessment (AA), and Flood Risk Assessment, as appropriate. As such, there is no potential for in-combination effects.
National Peatlands Strategy 2015-2025	• Habitat fragmentation or alteration;	A mid-term review of the National Peatlands Strategy was completed in 2021 and 16 actions were refined,

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
In April 2011 the Government made several key decisions relating to the conservation and management of Ireland's peatlands, particularly those sites nominated for designation as Special Areas of Conservation and Natural Heritage Areas. A commitment was made to draw up a national strategy on peatlands conservation and management, in consultation with bog owners and other stakeholders, to deal with long-term issues such as land management & development, restoration, conservation, tourism potential, carbon accounting and community participation in managing this resource. The strategy aums to provide a long-term framework within which all the peatland within the State can be managed responsibly to optimise their social, environmental, and economic contribution to the well-being of this and future generations.	• Disturbance to habitats/species; • Species mortality; and • Alterations to water quality and/or water movement.	taking into account developing national policies and programmes related to peatlands. Objectives of the strategy include to ensure appropriate land management and development of peatlands, as well as promoting their restoration, conservation, tourism potential, and potential for carbon sequestration. As such, there is potential for positive in-combination effects as circular economy principles are in line with that supported by the first draft revision to the NPF.
National Raised Bog Special Areas of Conservation Management Plan 2017-2022 Produced by the NPWS, this strategy outlines the approach to be taken specifically for the conservation and management of the 53 raised bog SAC sites and is informed by and will support the aims of the National Peatlands Strategy.	• Increase resilience in habitats and species; • Increase national collaboration on the management of protected areas; • Biodiversity protection; and • Improve environmental research.	The National Raised Bog Special Areas of Conservation Management Plan 2017-2022 outlines management options that will provide for the conservation and better management of European Sites designated for raised bog habitats. There is potential for potential for positive in-combination effects.
The Common Agricultural Policy Strategic Plan (CSP) 2023-2027 Underpins the sustainable development of Ireland's agricultural sector by: (i) supporting viable farm incomes and enhancing competitiveness; (ii) contributing to the achievement of environmental and climate objectives at national and EU levels; and (iii) strengthening the socio-economic fabric of rural areas. Ireland's CSP seeks not just to meet the three general and nine specific objectives set out in EU legislation, but also to contribute to meeting the objectives of the European Green Deal and Farm to Form and biodiversity strategies. The CSP is also a considered response to a comprehensive	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Alterations to air quality; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The CSP 2023-2027 has been subject to Appropriate Assessment which concluded that the Plan would not have potential for adverse effects on European Sites. As such, there is no potential for in-combination effects.

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
assessment of the current situation of Ireland's agricultural sector and the future challenges it faces.		
AgClimatise – A Roadmap Towards Climate Neutrality Outlines a vision to develop a climate neutral food system by 2050, compatible with the Paris temperature goals, whereby the impact of biogenic methane is reduced to zero and remaining agricultural emissions are balanced by removals through land use and a significant contribution to renewable energy.	• Improved air quality; • Improved water quality; • Reduction in greenhouse gas emissions; • Improved food security; • Habitat fragmentation or degradation; • Disturbance to habitats/species; and • Changed in land use/land cover.	While the primary focus of the Roadmap is on GHG and ammonia emissions, it also acknowledges potential co-benefits for water quality and biodiversity. As such, the main thrust of the Roadmap is positive, as it addresses climate change aspects. However, it also includes notes on the requirement for land-use change which, in the absence of mitigation, could lead to adverse effects on European Sites and protected species, such as disturbance, fragmentation, and/or degradation. Therefore, there is potential for in-combination effects, in the absence of the mitigation identified with respect to the addressing the potential adverse effects of the revised draft NPF. No additional mitigation is required to address this potential in combination effect.
Our Rural Future: Rural Development Policy 2021-2025 Represents the Irish Government's blueprint for a post-COVID-19 recovery and development of rural Ireland over the period of 2021-2025. It provides the framework to achieve the vision of transforming the quality of live and opportunity for people living in rural areas. The vision of this policy is for a thriving rural Ireland which is integral to our national economic, social, cultural, and environmental wellbeing and development.	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality; • Alterations to air quality; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	Our Rural Future: Rural Development Policy 2021-2025 acknowledges that any measures giving rise to, or potentially giving rise to, environmental impacts, will, therefore, be subject to screening and further consideration under Strategic Environmental Assessment (SEA) and/or Appropriate Assessment (AA), and Flood Risk Assessment, as appropriate. As such, there is no potential for in-combination effects.
Fifth Nitrates Action Programme 2022-2025 The Fifth Nitrates Action Programme 2022-2025 comprehensively addresses the major sources of agricultural nutrients and covers a national farming population of over 139,600 farm holdings. The measures set out in this programme are intended to help Ireland to meet its climate, biodiversity and water quality targets set at both national and EU level	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	The Fifth Nitrates Action Programme 2022-2025 has been subject to Appropriate Assessment which concluded that the programme would not have potential for adverse effects on European Sites. As such, there is no potential for in-combination effects.
Food Vision 2030 – A World Leader in Sustainable Food Systems	• Habitat loss or destruction; • Habitat fragmentation or degradation; • Species mortality;	This strategy aims to increase the value of Irish agri-food exports from €14.2 billion in 2020 up to €21 billion by 2030. The strategy aims to achieve this intensification through sustainable steady value growth in a climate

Draft First Revision of NPF In-Combination With	Key Types of Impacts	Assessment of Effects
This ten-year strategy is the successor to the current Food Wise 2025 plan and aims to make Ireland a world leader in Sustainable Food Systems over the next decade.	• Disturbance to habitats/species; • Alterations to water quality and/or water movement; and • Introduction or spread of invasive species.	smart, environmentally sustainable agri-food sector. The Strategy commits to reduce nutrient losses from agriculture to water by 50% in 2030 in line with the Farm to Fork Strategy. The AA concluded that the adoption of Food Vision 2030 would not have significant adverse effects on the integrity of any European Sites. However, since the introduction of previous agri-food strategies (Food Harvest 2020 and Food Wise 2025), agricultural intensification has led an increase in the total nitrogen load discharged to Irish waters, for example, and, resultantly, there is a concern that continued intensification of the agri-food sector over the lifetime of the Food Vision 2030 period may result in further adverse effects on the environment. As such, there is potential for in-combination effects.

7 PRELIMINARY CONCLUSIONS: DRAFT FIRST REVISION TO NPF

With reference to Article 6(3) of the EU Habitats Directive, this Natura Impact Statement (NIS) has considered the potential of the draft first revision to the NPF, via its NPO and NSO, to adversely affect the integrity of European sites with regard to their qualifying interests, associated Conservation Objectives and their overall site integrities. Where actual or potential for adverse effects on integrity have been identified, mitigation to address these effects has also been identified (as summarised at **Appendix K**). All mitigation identified will have to be implemented to ensure no adverse effects on the integrity of European sites will result from the implementation and application of the draft first revision to the NPF.

The conclusion of the NIS for the draft first revision to the NPF is that, subject to the identified mitigation being implemented in full, there will be no adverse effects on the integrity of any European Sites as a result of implementation and application of the NPF; either alone or in combination with other plans or projects.

Appendix A
List of SAC in RoI

SITE CODE	SITE NAME
IE0000006	Killyconny Bog (Cloghbally) SAC
IE0000007	Lough Oughter and Associated Loughs SAC
IE0000014	Ballyallia Lake SAC
IE0000016	Ballycullinan Lake SAC
IE0000019	Ballyogan Lough SAC
IE0000020	Black Head-Poulsallagh Complex SAC
IE0000030	Danes Hole, Poulnalecka SAC
IE0000032	Dromore Woods and Loughs SAC
IE0000036	Inagh River Estuary SAC
IE0000037	Pouladatig Cave SAC
IE0000051	Lough Gash Turlough SAC
IE0000054	Moneen Mountain SAC
IE0000057	Moyree River System SAC
IE0000064	Poulnagordon Cave (Quin) SAC
IE0000077	Ballymacoda (Clonpriest and Pillmore) SAC
IE0000090	Glengarriff Harbour and Woodland SAC
IE0000091	Clonakilty Bay SAC
IE0000093	Caha Mountains SAC
IE0000097	Lough Hyne Nature Reserve and Environs SAC
IE0000101	Roaringwater Bay and Islands SAC
IE0000102	Sheep's Head SAC
IE0000106	St. Gobnet's Wood SAC
IE0000108	The Gearagh SAC
IE0000109	Three Castle Head to Mizen Head SAC
IE0000111	Aran Island (Donegal) Cliffs SAC
IE0000115	Ballintra SAC
IE0000116	Ballyarr Wood SAC
IE0000129	Croaghonagh Bog SAC
IE0000133	Donegal Bay (Murvagh) SAC
IE0000138	Durnesh Lough SAC
IE0000140	Fawnboy Bog/Lough Nacung SAC
IE0000142	Gannivegil Bog SAC
IE0000147	Horn Head and Rinclevan SAC
IE0000154	Inishtrahull SAC
IE0000163	Lough Eske and Ardnamona Wood SAC
IE0000164	Lough Nagreany Dunes SAC
IE0000165	Lough Nillan Bog (Carrickatlieve) SAC
IE0000168	Magheradrumman Bog SAC
IE0000172	Meenaguse/Ardbane Bog SAC
IE0000173	Meentygrannagh Bog SAC
IE0000174	Curraghchase Woods SAC
IE0000181	Rathlin O'Birne Island SAC
IE0000185	Sessiagh Lough SAC
IE0000189	Slieve League SAC
IE0000190	Slieve Tooey/Tormore Island/Loughros Beg Bay SAC

IE0000191	St. John's Point SAC
IE0000194	Tranarossan and Melmore Lough SAC
IE0000197	West of Ardara/Maas Road SAC
IE0000199	Baldoyle Bay SAC
IE0000202	Howth Head SAC
IE0000204	Lambay Island SAC
IE0000205	Malahide Estuary SAC
IE0000206	North Dublin Bay SAC
IE0000208	Rogerstown Estuary SAC
IE0000210	South Dublin Bay SAC
IE0000212	Inishmaan Island SAC
IE0000213	Inishmore Island SAC
IE0000216	River Shannon Callows SAC
IE0000218	Coolcam Turlough SAC
IE0000231	Barroughter Bog SAC
IE0000238	Caherglassaun Turlough SAC
IE0000242	Castletaylor Complex SAC
IE0000248	Cloonmoylan Bog SAC
IE0000252	Coole-Garryland Complex SAC
IE0000255	Croaghill Turlough SAC
IE0000261	Derrycrag Wood Nature Reserve SAC
IE0000268	Galway Bay Complex SAC
IE0000278	Inishbofin and Inishshark SAC
IE0000285	Kilsallagh Bog SAC
IE0000286	Kiltartan Cave (Coole) SAC
IE0000295	Levally Lough SAC
IE0000296	Lisnageeragh Bog and Ballinastack Turlough SAC
IE0000297	Lough Corrib SAC
IE0000299	Lough Cutra SAC
IE0000301	Lough Lurgeen Bog/Glenamaddy Turlough SAC
IE0000304	Lough Rea SAC
IE0000308	Loughatorick South Bog SAC
IE0000318	Peterswell Turlough SAC
IE0000319	Pollnaknockaun Wood Nature Reserve SAC
IE0000322	Rahasane Turlough SAC
IE0000324	Rosroe Bog SAC
IE0000326	Shankill West Bog SAC
IE0000328	Slyne Head Islands SAC
IE0000330	Tully Mountain SAC
IE0000332	Akeragh, Banna and Barrow Harbour SAC
IE0000335	Ballinskelligs Bay and Inny Estuary SAC
IE0000343	Castlemaine Harbour SAC
IE0000353	Old Domestic Building, Dromore Wood SAC
IE0000364	Kilgarvan Ice House SAC
IE0000365	Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC

IE0000370	Lough Yganavan and Lough Nambrackdarrig SAC
IE0000375	Mount Brandon SAC
IE0000382	Sheheree (Ardagh) Bog SAC
IE0000391	Ballynafagh Bog SAC
IE0000396	Pollardstown Fen SAC
IE0000397	Red Bog, Kildare SAC
IE0000404	Hugginstown Fen SAC
IE0000407	The Loughans SAC
IE0000412	Slieve Bloom Mountains SAC
IE0000428	Lough Melvin SAC
IE0000432	Barrigone SAC
IE0000439	Tory Hill SAC
IE0000440	Lough Ree SAC
IE0000448	Fortwilliam Turlough SAC
IE0000453	Carlingford Mountain SAC
IE0000455	Dundalk Bay SAC
IE0000458	Killala Bay/Moy Estuary SAC
IE0000461	Ardkill Turlough SAC
IE0000463	Balla Turlough SAC
IE0000466	Bellacorick Iron Flush SAC
IE0000470	Mullet/Blacksod Bay Complex SAC
IE0000471	Brackloon Woods SAC
IE0000472	Broadhaven Bay SAC
IE0000474	Ballymaglancy Cave, Cong SAC
IE0000475	Carrowkeel Turlough SAC
IE0000476	Carrowmore Lake Complex SAC
IE0000479	Cloughmoyne SAC
IE0000480	Clyard Kettle-holes SAC
IE0000484	Cross Lough (Killadoon) SAC
IE0000485	Corraun Plateau SAC
IE0000492	Doocastle Turlough SAC
IE0000495	Duvillaun Islands SAC
IE0000497	Flughany Bog SAC
IE0000500	Glenamoy Bog Complex SAC
IE0000503	Greaghans Turlough SAC
IE0000504	Kilglassan/Caheravoostia Turlough Complex SAC
IE0000507	Inishkea Islands SAC
IE0000516	Lackan Saltmarsh and Kilcummin Head SAC
IE0000522	Lough Gall Bog SAC
IE0000525	Shrule Turlough SAC
IE0000527	Moore Hall (Lough Carra) SAC
IE0000532	Oldhead Wood SAC
IE0000534	Owenduff/Nephin Complex SAC
IE0000541	Skealoghan Turlough SAC
IE0000542	Slieve Fyagh Bog SAC
IE0000566	All Saints Bog and Esker SAC

IE0000571	Charleville Wood SAC
IE0000572	Clara Bog SAC
IE0000575	Ferbane Bog SAC
IE0000576	Fin Lough (Offaly) SAC
IE0000580	Mongan Bog SAC
IE0000581	Moyclare Bog SAC
IE0000582	Raheenmore Bog SAC
IE0000584	Cuilcagh - Anierin Uplands SAC
IE0000585	Sharavogue Bog SAC
IE0000588	Ballinturly Turlough SAC
IE0000592	Bellanagare Bog SAC
IE0000595	Callow Bog SAC
IE0000597	Carrowbehy/Caher Bog SAC
IE0000600	Cloonchambers Bog SAC
IE0000604	Derrinea Bog SAC
IE0000606	Lough Fingall Complex SAC
IE0000607	Errit Lough SAC
IE0000609	Lisduff Turlough SAC
IE0000610	Lough Croan Turlough SAC
IE0000611	Lough Funshinagh SAC
IE0000612	Mullygollan Turlough SAC
IE0000614	Cloonshanville Bog SAC
IE0000622	Ballysadare Bay SAC
IE0000623	Ben Bulben, Gleniff and Glenade Complex SAC
IE0000625	Bunduff Lough and Machair/Trawalua/Mullaghmore SAC
IE0000627	Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
IE0000633	Lough Hoe Bog SAC
IE0000634	Lough Nabrickkeagh Bog SAC
IE0000636	Templehouse and Cloonacleigha Loughs SAC
IE0000637	Turloughmore (Sligo) SAC
IE0000638	Union Wood SAC
IE0000641	Ballyduff/Clonfinane Bog SAC
IE0000646	Galtee Mountains SAC
IE0000647	Kilcarren-Firville Bog SAC
IE0000665	Helvick Head SAC
IE0000668	Nier Valley Woodlands SAC
IE0000671	Tramore Dunes and Backstrand SAC
IE0000679	Garriskil Bog SAC
IE0000685	Lough Ennell SAC
IE0000688	Lough Owel SAC
IE0000692	Scragh Bog SAC
IE0000696	Ballyteige Burrow SAC
IE0000697	Bannow Bay SAC
IE0000700	Cahore Polders and Dunes SAC
IE0000704	Lady's Island Lake SAC
IE0000707	Saltee Islands SAC

IE0000708	Screen Hills SAC
IE0000709	Tacumshin Lake SAC
IE0000710	Raven Point Nature Reserve SAC
IE0000713	Ballyman Glen SAC
IE0000714	Bray Head SAC
IE0000716	Carriggower Bog SAC
IE0000717	Deputy's Pass Nature Reserve SAC
IE0000719	Glen of the Downs SAC
IE0000725	Knocksink Wood SAC
IE0000729	Buckroney-Brittas Dunes and Fen SAC
IE0000733	Vale of Clara (Rathdrum Wood) SAC
IE0000764	Hook Head SAC
IE0000770	Blackstairs Mountains SAC
IE0000781	Slaney River Valley SAC
IE0000831	Cullahill Mountain SAC
IE0000849	Spahill and Clomantagh Hill SAC
IE0000859	Clonaslee Eskers and Derry Bog SAC
IE0000869	Lisbigney Bog SAC
IE0000919	Ridge Road, SW of Rapemills SAC
IE0000925	The Long Derries, Edenderry SAC
IE0000930	Clare Glen SAC
IE0000934	Kilduff, Devilsbit Mountain SAC
IE0000939	Silvermine Mountains SAC
IE0000979	Corratirrim SAC
IE0000994	Ballyteige (Clare) SAC
IE0000996	Ballyvaughan Turlough SAC
IE0001013	Glenomra Wood SAC
IE0001021	Carrowmore Point to Spanish Point and Islands SAC
IE0001040	Barley Cove to Ballyrisode Point SAC
IE0001043	Cleanderry Wood SAC
IE0001058	Great Island Channel SAC
IE0001061	Kilkeran Lake and Castlefreke Dunes SAC
IE0001070	Myross Wood SAC
IE0001090	Ballyness Bay SAC
IE0001107	Coolvoy Bog SAC
IE0001125	Dunragh Loughs/Pettigo Plateau SAC
IE0001141	Gweedore Bay and Islands SAC
IE0001151	Kindrum Lough SAC
IE0001179	Muckish Mountain SAC
IE0001190	Sheephaven SAC
IE0001195	Termon Strand SAC
IE0001197	Keeper Hill SAC
IE0001209	Glenasmole Valley SAC
IE0001228	Aughrusbeg Machair and Lake SAC
IE0001230	Courtmacsherry Estuary SAC
IE0001242	Carrownagappul Bog SAC

IE0001251	Cregduff Lough SAC
IE0001257	Dog's Bay SAC
IE0001271	Gortnandarragh Limestone Pavement SAC
IE0001275	Inisheer Island SAC
IE0001285	Kiltiernan Turlough SAC
IE0001309	Omey Island Machair SAC
IE0001311	Rusheenduff Lough SAC
IE0001312	Ross Lake and Woods SAC
IE0001313	Rosturra Wood SAC
IE0001321	Termon Lough SAC
IE0001342	Cloonee and Inchiquin Loughs, Uragh Wood SAC
IE0001371	Mucksna Wood SAC
IE0001387	Ballynafagh Lake SAC
IE0001398	Rye Water Valley/Carton SAC
IE0001403	Arroo Mountain SAC
IE0001430	Glen Bog SAC
IE0001432	Glenstal Wood SAC
IE0001459	Clogher Head SAC
IE0001482	Clew Bay Complex SAC
IE0001497	Doogort Machair/Lough Doo SAC
IE0001501	Erris Head SAC
IE0001513	Keel Machair/Menaun Cliffs SAC
IE0001529	Lough Cahasy, Lough Baun and Roonah Lough SAC
IE0001536	Mocorha Lough SAC
IE0001547	Castletownshend SAC
IE0001571	Urlaur Lakes SAC
IE0001625	Castlesampson Esker SAC
IE0001626	Annaghmore Lough (Roscommon) SAC
IE0001637	Four Roads Turlough SAC
IE0001656	Bricklieve Mountains and Keishcorran SAC
IE0001669	Knockalongy and Knockachree Cliffs SAC
IE0001673	Lough Arrow SAC
IE0001680	Streedagh Point Dunes SAC
IE0001683	Liskeenan Fen SAC
IE0001741	Kilmuckridge-Tinnaberna Sandhills SAC
IE0001742	Kilpatrick Sandhills SAC
IE0001757	Holdenstown Bog SAC
IE0001766	Magherabeg Dunes SAC
IE0001774	Lough Carra/Mask Complex SAC
IE0001776	Pilgrim's Road Esker SAC
IE0001786	Kilroosky Lough Cluster SAC
IE0001810	White Lough, Ben Loughs and Lough Doo SAC
IE0001818	Lough Forbes Complex SAC
IE0001831	Split Hills and Long Hill Esker SAC
IE0001847	Philipston Marsh SAC
IE0001858	Galmoy Fen SAC

IE0001873	Derryclogher (Knockboy) Bog SAC
IE0001879	Glanmore Bog SAC
IE0001880	Meenaguse Scragh SAC
IE0001881	Maulagowna Bog SAC
IE0001890	Mullaghanish Bog SAC
IE0001898	Unshin River SAC
IE0001899	Cloonakillina Lough SAC
IE0001912	Glendree Bog SAC
IE0001913	Sonnagh Bog SAC
IE0001919	Glenade Lough SAC
IE0001922	Bellacorick Bog Complex SAC
IE0001926	East Burren Complex SAC
IE0001932	Mweelrea/Sheeffry/Erriff Complex SAC
IE0001952	Comeragh Mountains SAC
IE0001955	Croaghaun/Slievemore SAC
IE0001957	Boyne Coast and Estuary SAC
IE0001975	Ballyhoorisky Point to Fanad Head SAC
IE0001976	Lough Gill SAC
IE0001992	Tamur Bog SAC
IE0002005	Bellacragher Saltmarsh SAC
IE0002006	Ox Mountains Bogs SAC
IE0002008	Maumturk Mountains SAC
IE0002010	Old Domestic Building (Keevagh) SAC
IE0002012	North Inishowen Coast SAC
IE0002031	The Twelve Bens/Garraun Complex SAC
IE0002032	Boleybrack Mountain SAC
IE0002034	Connemara Bog Complex SAC
IE0002036	Ballyhoura Mountains SAC
IE0002037	Carrigeenamronety Hill SAC
IE0002041	Old Domestic Building, Curraglass Wood SAC
IE0002047	Cloghernagore Bog and Glenveagh National Park SAC
IE0002070	Tralee Bay and Magharees Peninsula, West to Cloghane SAC
IE0002074	Slyne Head Peninsula SAC
IE0002081	Ballinafad SAC
IE0002091	Newhall and Edenvale Complex SAC
IE0002098	Old Domestic Building, Askive Wood SAC
IE0002110	Corliskea/Trien/Cloonfelliv Bog SAC
IE0002111	Kilkieran Bay and Islands SAC
IE0002112	Ballyseedy Wood SAC
IE0002117	Lough Coy SAC
IE0002118	Barnahallia Lough SAC
IE0002119	Lough Nageeron SAC
IE0002120	Lough Bane and Lough Glass SAC
IE0002121	Lough Lene SAC
IE0002122	Wicklow Mountains SAC
IE0002123	Ardmore Head SAC

IE0002124	Bolingbrook Hill SAC
IE0002125	Anglesey Road SAC
IE0002126	Pollagoona Bog SAC
IE0002129	Murvey Machair SAC
IE0002130	Tully Lough SAC
IE0002135	Lough Nageage SAC
IE0002137	Lower River Suir SAC
IE0002141	Mountmellick SAC
IE0002144	Newport River SAC
IE0002147	Lisduff Fen SAC
IE0002157	Newgrove House SAC
IE0002158	Kenmare River SAC
IE0002159	Mulroy Bay SAC
IE0002161	Long Bank SAC
IE0002162	River Barrow and River Nore SAC
IE0002164	Lough Golagh and Breesy Hill SAC
IE0002165	Lower River Shannon SAC
IE0002170	Blackwater River (Cork/Waterford) SAC
IE0002171	Bandon River SAC
IE0002172	Blasket Islands SAC
IE0002173	Blackwater River (Kerry) SAC
IE0002176	Leannan River SAC
IE0002177	Lough Dahybaun SAC
IE0002179	Towerhill House SAC
IE0002180	Gortacarnaun Wood SAC
IE0002181	Drummin Wood SAC
IE0002185	Slieve Mish Mountains SAC
IE0002187	Drongawn Lough SAC
IE0002189	Farranamanagh Lough SAC
IE0002193	Ireland's Eye SAC
IE0002197	Derrinlough (Cloonkeenleananode) Bog SAC
IE0002199	Ballygar (Aghrane) Bog SAC
IE0002200	Aughrim (Aghrane) Bog SAC
IE0002201	Derragh Bog SAC
IE0002202	Mount Jessop Bog SAC
IE0002203	Girley (Drewstown) Bog SAC
IE0002205	Wooddown Bog SAC
IE0002206	Scohaboy (Sopwell) Bog SAC
IE0002207	Arragh More (Derrybreen) Bog SAC
IE0002213	Glenloughaun Esker SAC
IE0002214	Killeglan Grassland SAC
IE0002236	Island Fen SAC
IE0002241	Lough Derg, North-east Shore SAC
IE0002243	Clare Island Cliffs SAC
IE0002244	Ardrahan Grassland SAC
IE0002245	Old Farm Buildings, Ballymacrogan SAC

IE0002246	Ballycullinan, Old Domestic Building SAC
IE0002247	Toonagh Estate SAC
IE0002249	The Murrough Wetlands SAC
IE0002250	Carrowmore Dunes SAC
IE0002252	Thomastown Quarry SAC
IE0002256	Ballyprior Grassland SAC
IE0002257	Moanour Mountain SAC
IE0002258	Silvermines Mountains West SAC
IE0002259	Tory Island Coast SAC
IE0002261	Magharee Islands SAC
IE0002262	Valencia Harbour/Portmagee Channel SAC
IE0002263	Kerry Head Shoal SAC
IE0002264	Kilkee Reefs SAC
IE0002265	Kingstown Bay SAC
IE0002267	Porcupine Shelf SAC
IE0002268	Achill Head SAC
IE0002269	Carnsore Point SAC
IE0002274	Wicklow Reef SAC
IE0002278	Southern Canyons SAC
IE0002279	Askeaton Fen Complex SAC
IE0002280	Dunbeacon Shingle SAC
IE0002281	Reen Point Shingle SAC
IE0002283	Rutland Island and Sound SAC
IE0002287	Lough Swilly SAC
IE0002293	Carrowbaun, Newhall and Ballylee Turloughs SAC
IE0002294	Cahermore Turlough SAC
IE0002295	Ballinduff Turlough SAC
IE0002296	Williamstown Turloughs SAC
IE0002298	River Moy SAC
IE0002299	River Boyne and River Blackwater SAC
IE0002301	River Finn SAC
IE0002303	Dunmuckrum Turloughs SAC
IE0002306	Carlingford Shore SAC
IE0002312	Slieve Bernagh Bog SAC
IE0002313	Ballymore Fen SAC
IE0002314	Old Domestic Buildings, Rylane SAC
IE0002315	Glanlough Woods SAC
IE0002316	Ratty River Cave SAC
IE0002317	Cregg House Stables, Crusheen SAC
IE0002318	Knockanira House SAC
IE0002319	Kilkishen House SAC
IE0002320	Kildun Souterrain SAC
IE0002324	Glendine Wood SAC
IE0002327	Belgica Mound Province SAC
IE0002328	Hovland Mound Province SAC
IE0002329	South-west Porcupine Bank SAC

IE0002330	North-west Porcupine Bank SAC
IE0002331	Mouds Bog SAC
IE0002332	Coolrain Bog SAC
IE0002333	Knockacoller Bog SAC
IE0002336	Carn Park Bog SAC
IE0002337	Crosswood Bog SAC
IE0002338	Drumalough Bog SAC
IE0002339	Ballynamona Bog and Corkip Lough SAC
IE0002340	Moneybeg and Clareisland Bogs SAC
IE0002341	Ardagullion Bog SAC
IE0002342	Mount Hevey Bog SAC
IE0002343	Tullaher Lough and Bog SAC
IE0002346	Brown Bog SAC
IE0002347	Camderry Bog SAC
IE0002348	Clooneen Bog SAC
IE0002349	Corbo Bog SAC
IE0002350	Curraghlehanagh Bog SAC
IE0002351	Moanveanlagh Bog SAC
IE0002352	Monivea Bog SAC
IE0002353	Redwood Bog SAC
IE0002354	Tullaghanrock Bog SAC
IE0002356	Ardgraigue Bog SAC
IE0002953	Blackwater Bank SAC
IE0002998	West Connacht Coast SAC
IE0002999	Hempton's Turbot Bank SAC
IE0003000	Rockabill to Dalkey Island SAC
IE0003001	Porcupine Bank Canyon SAC
IE0003002	South-east Rockall Bank SAC
IE0003015	Codling Fault Zone SAC

Source: NPWS Datasheet - SAC-datasheets-May-2024 (Accessed June 2024)

Appendix B
List of SPA in RoI

SITE CODE	SITE NAME
IE0004002	Saltee Islands SPA
IE0004003	Puffin Island SPA
IE0004004	Inishkea Islands SPA
IE0004005	Cliffs of Moher SPA
IE0004006	North Bull Island SPA
IE0004007	Skelligs SPA
IE0004008	Blasket Islands SPA
IE0004009	Lady's Island Lake SPA
IE0004013	Drumcliff Bay SPA
IE0004014	Rockabill SPA
IE0004015	Rogerstown Estuary SPA
IE0004016	Baldoyle Bay SPA
IE0004017	Mongan Bog SPA
IE0004019	The Raven SPA
IE0004020	Ballyteige Burrow SPA
IE0004021	Old Head of Kinsale SPA
IE0004022	Ballycotton Bay SPA
IE0004023	Ballymacoda Bay SPA
IE0004024	South Dublin Bay and River Tolka Estuary SPA
IE0004025	Malahide Estuary SPA
IE0004026	Dundalk Bay SPA
IE0004027	Tramore Back Strand SPA
IE0004028	Blackwater Estuary SPA
IE0004029	Castlemaine Harbour SPA
IE0004030	Cork Harbour SPA
IE0004031	Inner Galway Bay SPA
IE0004032	Dungarvan Harbour SPA
IE0004033	Bannow Bay SPA
IE0004034	Trawbreaga Bay SPA
IE0004035	Cummeen Strand SPA
IE0004036	Killala Bay/Moy Estuary SPA
IE0004037	Blacksod Bay/Broad Haven SPA
IE0004038	Killarney National Park SPA
IE0004039	Derryveagh and Glendowan Mountains SPA
IE0004040	Wicklow Mountains SPA
IE0004041	Ballyallia Lough SPA
IE0004042	Lough Corrib SPA
IE0004043	Lough Derravaragh SPA
IE0004044	Lough Ennell SPA
IE0004045	Glen Lough SPA
IE0004046	Lough Iron SPA
IE0004047	Lough Owel SPA
IE0004048	Lough Gara SPA
IE0004049	Lough Oughter Complex SPA
IE0004050	Lough Arrow SPA

SITE CODE	SITE NAME
IE0004051	Lough Carra SPA
IE0004052	Carrowmore Lake SPA
IE0004056	Lough Cutra SPA
IE0004057	Lough Derg (Donegal) SPA
IE0004058	Lough Derg (Shannon) SPA
IE0004060	Lough Fern SPA
IE0004061	Lough Kinale and Derragh Lough SPA
IE0004062	Lough Mask SPA
IE0004063	Poulaphouca Reservoir SPA
IE0004064	Lough Ree SPA
IE0004065	Lough Sheelin SPA
IE0004066	The Bull and The Cow Rocks SPA
IE0004068	Inishmurray SPA
IE0004069	Lambay Island SPA
IE0004072	Stags of Broad Haven SPA
IE0004073	Tory Island SPA
IE0004074	Illanmaster SPA
IE0004075	Lough Swilly SPA
IE0004076	Wexford Harbour and Slobs SPA
IE0004077	River Shannon and River Fergus Estuaries SPA
IE0004078	Carlingford Lough SPA
IE0004080	Boyne Estuary SPA
IE0004081	Clonakilty Bay SPA
IE0004082	Greers Isle SPA
IE0004083	Inishbofin, Inishdooey and Inishbeg SPA
IE0004084	Inishglora and Inishkeeragh SPA
IE0004086	River Little Brosna Callows SPA
IE0004087	Lough Foyle SPA
IE0004089	Rahasane Turlough SPA
IE0004090	Sheskinmore Lough SPA
IE0004091	Stabannan-Braganstown SPA
IE0004092	Tacumshin Lake SPA
IE0004093	Termoncarragh Lake and Annagh Machair SPA
IE0004094	Blackwater Callows SPA
IE0004095	Kilcolman Bog SPA
IE0004096	Middle Shannon Callows SPA
IE0004097	River Suck Callows SPA
IE0004098	Owenduff/Nephin Complex SPA
IE0004099	Pettigo Plateau Nature Reserve SPA
IE0004100	Inishtrahull SPA
IE0004101	Ballykenny-Fisherstown Bog SPA
IE0004102	Garriskil Bog SPA
IE0004103	All Saints Bog SPA
IE0004105	Bellanagare Bog SPA
IE0004107	Coole-Garryland SPA

SITE CODE	SITE NAME
IE0004108	Eirk Bog SPA
IE0004109	The Gearagh SPA
IE0004110	Lough Nillan Bog SPA
IE0004111	Duvillaun Islands SPA
IE0004113	Howth Head Coast SPA
IE0004114	Illaunonearaun SPA
IE0004115	Inishduff SPA
IE0004116	Inishkeel SPA
IE0004117	Ireland's Eye SPA
IE0004118	Keeragh Islands SPA
IE0004119	Loop Head SPA
IE0004120	Rathlin O'Birne Island SPA
IE0004121	Roaninish SPA
IE0004122	Skerries Islands SPA
IE0004124	Sovereign Islands SPA
IE0004125	Magharee Islands SPA
IE0004127	Wicklow Head SPA
IE0004129	Ballysadare Bay SPA
IE0004132	Illancrone and Inishkeeragh SPA
IE0004133	Aughris Head SPA
IE0004134	Lough Rea SPA
IE0004135	Ardboline Island and Horse Island SPA
IE0004136	Clare Island SPA
IE0004137	Dovegrove Callows SPA
IE0004139	Lough Croan Turlough SPA
IE0004140	Four Roads Turlough SPA
IE0004142	Cregganna Marsh SPA
IE0004143	Cahore Marshes SPA
IE0004144	High Island, Inishshark and Davillaun SPA
IE0004145	Durnesh Lough SPA
IE0004146	Malin Head SPA
IE0004148	Fanad Head SPA
IE0004149	Falcarragh to Meenlaragh SPA
IE0004150	West Donegal Coast SPA
IE0004151	Donegal Bay SPA
IE0004152	Inishmore SPA
IE0004153	Dingle Peninsula SPA
IE0004154	Iveragh Peninsula SPA
IE0004155	Beara Peninsula SPA
IE0004156	Sheep's Head to Toe Head SPA
IE0004158	River Nanny Estuary and Shore SPA
IE0004159	Slyne Head to Ardmore Point Islands SPA
IE0004160	Slieve Bloom Mountains SPA
IE0004161	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA
IE0004162	Mullaghanish to Musheramore Mountains SPA

SITE CODE	SITE NAME
IE0004165	Slievefelim to Silvermines Mountains SPA
IE0004167	Slieve Beagh SPA
IE0004168	Slieve Aughty Mountains SPA
IE0004170	Cruagh Island SPA
IE0004172	Dalkey Islands SPA
IE0004175	Deenish Island and Scariff Island SPA
IE0004177	Bills Rocks SPA
IE0004181	Connemara Bog Complex SPA
IE0004182	Mid-Clare Coast SPA
IE0004186	The Murrough SPA
IE0004187	Sligo/Leitrim Uplands SPA
IE0004188	Tralee Bay Complex SPA
IE0004189	Kerry Head SPA
IE0004190	Galley Head to Duneen Point SPA
IE0004191	Seven Heads SPA
IE0004192	Helvick Head to Ballyquin SPA
IE0004193	Mid-Waterford Coast SPA
IE0004194	Horn Head to Fanad Head SPA
IE0004212	Cross Lough (Killadoon) SPA
IE0004219	Courtmacsherry Bay SPA
IE0004220	Corofin Wetlands SPA
IE0004221	Illaunnanoon SPA
IE0004227	Mullet Peninsula SPA
IE0004228	Lough Conn and Lough Cullin SPA
IE0004230	West Donegal Islands SPA
IE0004231	Inishbofin, Omey Island and Turbot Island SPA
IE0004232	River Boyne and River Blackwater SPA
IE0004233	River Nore SPA
IE0004234	Ballintemple and Ballygilgan SPA
IE0004235	Doogort Machair SPA
IE0004236	North-west Irish Sea SPA
IE0004237	Seas off Wexford SPA

Source: NPWS Datasheet - SPA-datasheets-May- 2024 (Accessed June 2024).

Appendix C
List of SAC in NI

SITE CODE	SITE NAME
UK0030055	Rathlin Island
UK0030224	North Antrim Coast
UK0016613	Magilligan
UK0030084	Bann Estuary
UK0030097	Breen Wood
UK0030089	Binevenagh
UK0016610	Garry Bog
UK0030199	Main Valley Bogs
UK0016606	Garron Plateau
UK0030303	Wolf Island Bog
UK0030083	Banagher Glen
UK0030110	Carn-Glenshane Pass
UK0016599	Ballynahone Bog
UK0016608	Teal Lough
UK0030211	Moneygal Bog
UK0030244	Rea`s Wood and Farr`s Bay
UK0030233	Owenkillew River
UK0016609	Black Bog
UK0030296	Upper Ballinderry River
UK0016611	Fairy Water Bogs
UK0030214	Montiaghs Moss
UK0016607	Pettigoe Plateau
UK0030236	Peatlands Park
UK0030045	Largalinny
UK0016619	Monawilkin
UK0030047	Lough Melvin
UK0030291	Turmennan
UK0030068	Fardrum and Roosky Turloughs
UK0030300	West Fermanagh Scarplands
UK0030169	Hollymount
UK0016618	Strangford Lough
UK0016622	Slieve Beagh
UK0030180	Lecale Fens
UK0030116	Cladagh (Swanlinbar) River
UK0016603	Cuilcagh Mountain
UK0016621	Magheraveely Marl Loughs
UK0016620	Derryleckagh

SITE CODE	SITE NAME
UK0016612	Murlough
UK0016615	Eastern Mournes
UK0030212	Moninea Bog
UK0016614	Upper Lough Erne
UK0030277	Slieve Gullion
UK0030268	Rostrevor Wood
UK0030319	Ballykilbeg
UK0030318	Aughnadarragh Lough
UK0030325	Tonnagh Beg Bog
UK0030321	Cranny Bogs
UK0030324	Deroran Bog
UK0030326	Tully Bog
UK0030323	Dead Island Bog
UK0030322	Curran Bog
UK0030320	River Foyle and Tributaries
UK0030361	River Faughan and Tributaries
UK0030360	River Roe and Tributaries
UK0030365	Red Bay
UK0030383	Skerries and Causeway
UK0030384	The Maidens
UK0030399	North Channel

Source: JNCC Datasheet – JNCC-uk-natura2000-2023-10-31 (Accessed June -2024).

Appendix D
List of SPA in NI

SITE CODE	SITE NAME
UK9020101	Belfast Lough
UK9020042	Larne Lough
UK9020091	Lough Neagh and Lough Beg
UK9020051	Pettigoe Plateau
UK9020021	Sheep Island
UK9020111	Strangford Lough
UK9020071	Upper Lough Erne
UK9020011	Rathlin Island
UK9020031	Lough Foyle
UK9020221	Killough Bay
UK9020161	Carlingford Lough
UK9020271	Outer Ards
UK9020301	Antrim Hills
UK9020302	Slieve Beagh-Mullaghfad-Lisnaskea
UK9020290	Belfast Lough Open Water
UK9020291	Copeland Islands

Source: JNCC Datasheet- JNCC-uk-natura2000-2022-09-30 (Accessed June 2024)

Appendix E
Conservation Status of EU Habitats and Species

The following tables are sourced from the NPWS 2019 report entitled *The Status of Protected EU Habitats and Species in Ireland. Volume 1: Summary Overview*. This report is available online at https://www.npws.ie/publications/article-17-reports/article-17-reports-2019 (accessed November 2023).

Summary Conservation Status of QI Habitats and Species in the Republic of Ireland

Code	Common name	2007 Overall Status	2013 Overall Status and operator	2019 Overall Status and trend	2019 Range	2019 Area	2019 Structure & Functions	2019 Future Prospects
1110	Sandbanks	Unfavourable-Inadequate	Favourable	Stable	Stable	Stable	Stable	Favourable
1130	Estuaries	Unfavourable-Inadequate	Improving	Declining	Stable	Stable	Declining	Unfavourable-Inadequate
1140	Tidal mudflats and sandflats	Unfavourable-Inadequate	Improving	Declining	Stable	Stable	Declining	Unfavourable-Inadequate
1150	Lagoons*	Unfavourable-Bad	Stable	Declining	Stable	Stable	Declining	Unfavourable-Bad
1160	Large shallow inlets and bays	Unfavourable-Inadequate	Improving	Declining	Stable	Stable	Declining	Unfavourable-Bad
1170	Reefs	Unfavourable-Inadequate	Declining	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
1180	Submarine structures made by leaking gases			Stable	Stable	Stable	Stable	Favourable
1210	Drift lines	Unfavourable-Inadequate	Declining	Declining	Stable	Declining	Stable	Unfavourable-Inadequate
1220	Vegetated shingle	Unfavourable-Inadequate	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
1230	Vegetated sea cliffs	Unfavourable-Inadequate	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
1310	*Salicornia* mud	Unfavourable-Inadequate	Declining	Stable	Stable	Stable	Stable	Favourable
1320	Spartinion	Unfavourable-Inadequate						
1330	Atlantic salt meadows	Unfavourable-Inadequate	Stable	Declining	Stable	Declining	Stable	Unfavourable-Inadequate
1410	Mediterranean salt meadows	Unfavourable-Inadequate	Stable	Declining	Stable	Declining	Stable	Unfavourable-Inadequate
1420	Halophilous scrub	Unfavourable-Bad	Declining	Declining	Declining	Declining	Stable	Unfavourable-Bad
2110	Embryonic shifting dunes	Unfavourable-Inadequate	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
2120	Marram dunes (white dunes)	Unfavourable-Bad	Stable	Stable	Stable	Declining	Stable	Unfavourable-Inadequate
2130	Fixed dunes (grey dunes)*	Unfavourable-Bad	Stable	Declining	Stable	Stable	Declining	Unfavourable-Bad
2140	Empetrum dunes*	Unfavourable-Bad	Stable	Stable	Stable	Stable	Stable	Favourable
2150	Dune heath*	Unfavourable-Bad	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
2170	Dunes with creeping willow	Unfavourable-Inadequate	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
2190	Dune slacks	Unfavourable-Bad	Declining	Declining	Declining	Declining	Stable	Unfavourable-Inadequate
21A0	Machair*	Unfavourable-Bad	Stable	Stable	Stable	Declining	Stable	Unfavourable-Inadequate
3110	Oligotrophic isoetid lake habitat	Unfavourable-Bad	Declining	Stable	Stable	Stable	Stable	Unfavourable-Bad
3130	Mixed Najas flexilis lake habitat	Unfavourable-Bad	Stable	Declining	Stable	Stable	Declining	Unfavourable-Inadequate
3140	Hard water lakes	Unfavourable-Bad	Declining	Declining	Stable	Stable	Declining	Unfavourable-Bad
3150	Rich pondweed lake habitat	Unfavourable-Bad	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
3160	Acid oligotrophic lakes	Unfavourable-Bad	Declining	Stable	Stable	Stable	Unknown	Unfavourable-Inadequate
3180	Turloughs*	Unfavourable-Inadequate	Stable	Stable	Stable	Stable	Stable	Unfavourable-Inadequate
3260	Vegetation of flowing waters	Unfavourable-Bad	Declining	Declining	Stable	Stable	Declining	Unfavourable-Inadequate
3270	Chenopodion rubri	Favourable	Favourable	Stable	Stable	Stable	Stable	Favourable

STATUS: Favourable | Unfavourable-Inadequate | Unfavourable-Bad | Unknown | Vagrant

TREND: Improving | Stable | Declining | Unknown

Code	Common name	2007 Overall Status	2013 Overall Status and operator	2019 Overall Status and trend	2019 Range	2019 Area	2019 Structure & Functions	2019 Future Prospects
4010	Wet heaths	●	=	▼	=	▼	=	●
4030	Dry heaths	●	=	=	=	▼	=	●
4060	Alpine and subalpine heath	●	▲	▲	=	▼	▲	●
5130	Juniper scrub	●	=	=	=	=	=	●
6130	Calaminarian grasslands	●	=	▼	▼	▼	▼	●
6210	Orchid-rich calcareous grassland*	●	=	▼	=	▼	=	●
6230	Species-rich *Nardus* grassland*	●	▼	=	=	=	=	●
6410	*Molinia* meadows	●	▼	▼	▼	▼	=	●
6430	Hydrophilous tall-herb swamp	●	=	▼	▼	▼	=	●
6510	Hay meadows	●	=	▼	▼	▼	▼	●
7110	Raised bog (active)*	●	▼	▼	=	▼	▼	●
7120	Degraded raised bogs	●	▼	▼	=	▼	▼	●
7130	Blanket bog (active)*	●	▼	▼	=	▼	▼	●
7140	Transition mires	●	✕	=	=	=	✕	●
7150	Rhynchosporion depressions	●	▼	▼	=	▼	▼	●
7210	*Cladium* fens*	●	✕	=	=	=	✕	●
7220	Petrifying springs*	●	=	▼	=	=	▼	●
7230	Alkaline fens	●	✕	▼	=	▼	✕	●
8110	Siliceous scree	●	▲	=	=	=	=	●
8120	Eutric scree	●	=	=	=	=	=	●
8210	Calcareous rocky slopes	●	=	=	=	=	=	●
8220	Siliceous rocky slopes	●	=	=	=	=	=	●
8240	Limestone pavement*	●	=	=	=	▼	▲	●
8310	Caves	●	●	=	=	=	=	●
8330	Sea caves	●	●	=	=	=	=	●
91A0	Old oak woodland	●	▲	▼	=	▼	=	●
91D0	Bog woodland*	●	●	=	=	=	=	●
91E0	Alluvial woodland*	●	▲	▼	=	▼	▼	●
91J0	Yew woodland*	●	▲	=	=	=	=	●

STATUS: ● Favourable ● Unfavourable-Inadequate ● Unfavourable-Bad ● Unknown ● Vagrant

TREND: ▲ Improving = Stable ▼ Declining ✕ Unknown

Code	Species name	Annex	2007 Overall Status	2013 Overall Status and operator	2019 Overall Status and trend	2019 Range	2019 Population	2019 Habitat for the species	2019 Future Prospects
6985	Killarney fern (*Vandenboschia speciosa*)	II, IV							
1528	Marsh saxifrage (*Saxifraga hirculus*)	II, IV							
1833	Slender naiad (*Najas flexilis*)	II, IV							
6216	Slender green feather moss (*Hamatocaulis vernicosus*)	II							
1395	Petalwort (*Petalophyllum ralfsii*)	II							
1376	Maërl (*Lithothamnium coralloides*)	V							
1377	Maërl (*Phymatholithon calcareum*)	V							
1400	White cushion moss (*Leucobryum glaucum*)	V							
1409	Sphagnum genus (*Sphagnum spp.*)	V							
1413	Lycopodium group (*Lycopodium spp.*)	V							
1378	Cladonia subgenus cladina (*Cladonia (Cladina) subsp.*)	V							
1013	Geyer's whorl snail (*Vertigo geyeri*)	II							
1014	Narrow-mouthed whorl snail (*Vertigo angustior*)	II							
1016	Desmoulin's whorl snail (*Vertigo moulinsiana*)	II							
1024	Kerry slug (*Geomalacus maculosus*)	II, IV							
1029	Freshwater pearl mussel (*Margaritifera margaritifera*)	II, V							
1990	Nore pearl mussel (*Margaritifera durrovensis*)	II, V							
1092	White-clawed crayfish (*Austropotamobius pallipes*)	II, V							
1065	Marsh fritillary (*Euphydryas aurinia*)	II							
1095	Sea lamprey (*Petromyzon marinus*)	II							
1096	Brook lamprey (*Lampetra planeri*)	II							
1099	River lamprey (*Lampetra fluviatilis*)	II, V							
5046	Killarney shad (*Alosa killarnensis*)	II, V							
1103	Twaite shad (*Alosa fallax*)	II, V							
5076	Pollan (*Coregonus pollan*)	V							
1106	Atlantic salmon (*Salmo salar*)	II, V							
6284	Natterjack toad (*Epidalea calamita*)	IV							
1213	Common frog (*Rana temporaria*)	V							
1223	Leatherback turtle (*Dermochelys coriacea*)	IV							
1303	Lesser horseshoe bat (*Rhinolophus hipposideros*)	II, IV							
1309	Common pipistrelle (*Pipistrellus pipistrellus*)	IV							
5009	Soprano pipistrelle (*Pipistrellus pygmaeus*)	IV							
1317	Nathusius' pipistrelle (*Pipistrellus nathusii*)	IV							
1322	Natterer's bat (*Myotis nattereri*)	IV							

STATUS: Favourable · Unfavourable-Inadequate · Unfavourable-Bad · Unknown · Vagrant

TREND: ▲ Improving · = Stable · ▼ Declining · × Unknown

Code	Species name	Annex	2007 Overall Status	2013 Overall Status and operator	2019 Overall Status and trend	2019 Range	2019 Population	2019 Habitat for the species	2019 Future Prospects
1314	Daubenton's bat (*Myotis daubentonii*)	IV							
1330	Whiskered bat (*Myotis mystacinus*)	IV							
1326	Brown long-eared bat (*Plecotus auritus*)	IV							
1331	Leisler's bat (*Nyctalus leisleri*)	IV							
1334	Mountain hare (*Lepus timidus*)	V							
1355	Otter (*Lutra lutra*)	II, IV							
1357	Pine marten (*Martes martes*)	V							
1364	Grey seal (*Halichoerus grypus*)	II, V							
1365	Harbour seal (*Phoca vitulina*)	II, V							
1345	Humpback whale (*Megaptera novaeangliae*)	IV							
1349	Common bottlenose dolphin (*Tursiops truncatus*)	II, IV							
1350	Common dolphin (*Delphinus delphis*)	IV							
1351	Harbour porpoise (*Phocoena phocoena*)	II, IV							
2027	Killer whale (*Orcinus orca*)	IV							
2029	Long-finned pilot whale (*Globicephala melas*)	IV							
2030	Risso's dolphin (*Grampus griseus*)	IV							
2031	White-sided dolphin (*Lagenorhynchus acutus*)	IV							
2032	White-beaked dolphin (*Lagenorhynchus albirostris*)	IV							
2034	Striped dolphin (*Stenella coeruleoalba*)	IV							
2035	Cuvier's beaked whale (*Ziphius cavirostris*)	IV							
2038	Sowerby's beaked whale (*Mesoplodon bidens*)	IV							
2618	Minke whale (*Balaenoptera acutorostrata*)	IV							
2621	Fin whale (*Balaenoptera physalus*)	IV							
5020	Blue whale (*Balaenoptera musculus*)	IV							
2624	Sperm whale (*Physeter macrocephalus*)	IV							
5033	Northern bottlenose whale (*Hyperoodon ampullatus*)	IV							
2619	Sei whale (*Balaenoptera borealis*)	IV							
1348	Northern right whale (*Eubalaena glacialis*)	IV							
2028	False killer whale (*Pseudorca crassidens*)	IV							
2037	True's beaked whale (*Mesoplodon mirus*)	IV							
2622	Pygmy sperm whale (*Kogia breviceps*)	IV							
5029	Beluga/White whale (*Delphinapterus leucas*)	IV							
5034	Gervais' beaked whale (*Mesoplodon europaeus*)	IV							
1102	Allis shad (*Alosa alosa*)	II, V							
1320	Brandt's bat (*Myotis brandtii*)	IV							

STATUS: Favourable · Unfavourable-Inadequate · Unfavourable-Bad · Unknown · Vagrant

TREND: ▲ Improving · = Stable · ▼ Declining · ✕ Unknown

Summary Status Description for QI Habitats in the ROI

QI Habitat Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
1110	Improvements over time due to declining pressures. Stable status in 2019, as no significant pressures identified. Overall favourable future prospect for this habitat.
1130	Overall status is deteriorating. Trend changes seen from improving in 2013 to declining in 2019 is a result of more accurate data. This decline is considered to have been ongoing since the beginning of the last assessment.
1140	Overall status is deteriorating. Changes from improving to deteriorating are due to a genuine decline in the quality of this habitat since 2013. Causes of this have been identified as; pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas).
1150*	The Overall Status for Lagoons is assessed as Bad, unchanged since the 2013 assessment. High ranking pressures on this habitat are identified as; eutrophication, modification of hydrological flow, drainage, erosion and silting up, accumulation of seaweed, and sedimentation from peat related to turf cutting and/or forestry. The change from stable to declining is a result of a genuine decline since 2013.
1160	Previous trends of inadequate and improving are now assessed as bad, owing to more detailed information. Bad status as a result of pressures including; nutrient enrichment, dredging and invasive alien species.
1170	Inadequate yet stable status. Change in status from bad is mainly attributed to better knowledge gained from recent surveys, while genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls therefore reducing pressures to the seafloor.
1180	Not assessed in reports prior to 2019. Favourable with a stable trend based on the physical and geological nature of this habitat in addition to no identified significant pressures on their long-term viability.
1210	A deteriorating trend due to anthropogenic area losses. Inadequate status caused by pressures associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics, and the fact that the current area is still below the favourable reference area.
1220	This assessment is unchanged since 2013. The Overall Status is assessed as Inadequate, mainly due to pressures associated with coastal defences (which can interfere with sediment dynamics), recreation and shingle removal. The trend is stable.
1230	Overall Status remains Inadequate with a stable trend. Subject to various pressures including; trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. The Habitats Directive has prevented significant losses, however close monitoring is required for this vulnerable habitat.
1310	The Overall Status is Favourable with a stable trend, an improvement since 2013. This change is due partly to a change in the threshold for favourable structure and functions, and partly because of a lack of evidence for the recent spread of the invasive non-native species, common cordgrass (Spartina anglica).
1320	No information.
1330	Inadequate status. Unchanged since 2013. Deterioration represents a genuine decline due to losses in area, while Inadequate status is due to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica).
1410	Inadequate status. Unchanged since 2013. Deterioration represents a genuine decline due to losses in area, while Inadequate status is due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation.
1420	Continuing decline since 2013, assessed as Bad with a deteriorating trend. This trend is due to recent area losses, associated with algal mats formed as a consequence of water pollution, which resulted in a contraction of the range of the habitat.
2110	Unchanged since 2013, Inadequate and stable trend associated with pressures from recreation and coastal defences, which can interfere with sediment dynamics.
2120	Unchanged since 2013, Inadequate and stable trend mainly associated with pressures from recreation and coastal defences, which can interfere with local sediment dynamics.

QI Habitat Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
2130	Overall Bad status. Deteriorating trend due to poor results for structure and functions, but this is largely attributed to use of a different methodology and decline is considered to have been on-going since before the last assessment. Pressures are associated with recreation and ecologically unsuitable grazing practices.
2140	Improving trend attributed to more accurate monitoring data rather than actual change, and the habitat is considered to have been in Favourable condition since before the last assessment. Overall status is therefore favourable. Pressures include; grassland abandonment, recreational activities, and bracken encroachment; however, none were considered to impact the long-term viability of the habitat.
2150	The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with land abandonment, recreational activities, and bracken encroachment. This assessment is unchanged since 2013.
2170	Inadequate status unchanged from 2013 due to pressures associated with ecologically unsuitable grazing, invasive non-native species and agricultural intensification.
2190	Unchanged condition since last assessment. Inadequate and deteriorating agricultural fertilisers, sports and leisure activities, and drainage. Succession to scrub is also problematic for the status of this habitat.
21AO	The Overall Status is assessed as Inadequate, which differs from the 2013 Bad assessment. The overall trend is stable. A different method was used to determine the proportion of habitat in good condition and the status is considered to have been Inadequate since before the last assessment.
3110	The Overall Status is assessed as Bad with a stable trend. The change in trend from deteriorating to stable is because of the use of a different method. The future of this habitat requires action to address peatland damage at a catchment scale, as well as to reduce nutrient and other pollution.
3130	No change since the 2013 assessment except a move from stable to a deteriorating trend. This was based on improved knowledge through dedicated survey during the reporting cycle while also being subject to significant pressures from drainage, agriculture, peat extraction, forestry and wastewaters.
3140	Significant pressures have given this habitat a Bad and deteriorating status. These include nutrient and organic pollution being agriculture and municipal and industrial wastewaters while movement of pollutants, especially phosphorus, through groundwater is a significant concern.
3150	Unchanging status since last assessment due to anthropogenic influences. Associated with catchments dominated by mineral soil and, hence, some of the most intensive agricultural lands. Eutrophication is primary issue. Inadequate but stable trend.
3160	In Inadequate condition, this habitat trend has changed from deteriorating to stable due to use of a different assessment method and the trend is considered to have been stable since before the last assessment.
3180	Because of on-going pressures related to drainage, groundwater pollution and ecologically unsuitable grazing, the Overall Status has been assessed as Inadequate and stable, unchanged since 2013. The pressures mentioned gravely impact turlough ecology due to its hydrological dynamics.
3260	The inadequate and deteriorating trend of this habitat is of significant concern and is continually highlighted by the EPA. Agriculture, municipal, industrial discharges and damage through hydrological and morphological change are the leading issues causing sedimentation and high nutrient conditions.
3270	This habitat is upkeeping its favourable status since 2013 with intensive grazing causing poaching being the only significant pressure recorded.
4010	Bad and deteriorating with a change in trend from stable in 2013 associated with continued area losses due to new forestry, paths, tracks and land clearance while Overgrazing, burning, wind farm development and erosion are ongoing issues. In addition to this, N deposition from agriculture that generate air pollution and climate change have been recognised as causing negative impacts and causing poor future prospects for this habitat.
4030	Bad and stable with no change since 2013. Multiple significant pressures are associated with dry heath habitats. Overgrazing by sheep and burning for agriculture are particular issues here

QI Habitat Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	causing habitat degradation and losses through erosion. Afforestation and win farms also contribute to their bad status.
4060	Ongoing pressures and threats have given this habitat a Bad status. These include climate change (temp. increase & precip. decrease), upland sheep grazing, hill walking, and agricultural activities causing both current and future threats. An improving trend here assumes that the reduced grazing brought about by the Commonage Framework Plans continues to have a positive effect on this habitat.
5130	The Overall Status is assessed as Favourable and the trend is stable. The apparent improvement in status since the 2013 report is due to use of a different assessment method rather than a genuine change, and the habitat is considered to have been Favourable since before the last assessment.
6130	The Overall Status is assessed as Inadequate with a declining trend. The change in trend since 2013 is due to improved knowledge, and decline is considered to have been on-going since before the last assessment.
6210	The Bad deteriorating status here represents a genuine decline since the 2013 report in which the trend was assessed as stable. On-going habitat losses are associated with this such as agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub despite conservation-focused farming schemes aiming to improve such habitats.
6230	The Overall Status is assessed as Bad due to on-going pressures such as bracken encroachment and succession. The trend is stable, and may represent a genuine improvement since the 2013 report however there was limited monitoring undertaken.
6410	Bad and deteriorating trend, unchanged since 2013. On-going losses of habitat due to agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry. Significant historical losses of this habitat have also occurred since the EU Habitats Directive came into force contributing to this poor status.
6430	The Overall Status is assessed as Bad with a deteriorating trend. This change in trend since the 2013 report represents a genuine decline due to range contraction and a decline in structure and functions.
6510	This change in trend since the 2013 report (in which it was judged to be stable) is attributed to improved knowledge/more accurate data, and decline is considered to have been on-going since before the last assessment.
7110	Overall Status of the habitat is Bad and deteriorating, unchanged since the last assessment. The main pressures on active raised bog are peat extraction, drainage, afforestation and burning. Climate change is also considered a threat in the future
7120	Overall Status is assessed as Bad and deteriorating, unchanged since the last assessment. The main pressures on Degraded raised bog come from peat extraction, drainage, afforestation, burning and climate change.
7130	**Overall Status is assessed as Bad and deteriorating, unchanged since the 2013 report. Main pressures include overgrazing, burning, afforestation, peat extraction, and agricultural activities causing nitrogen deposition. Erosion, drainage and wind farm construction are other issues of concern for blanket bog status.**
7140	The Overall Status is assessed as Bad, as in the last two reporting periods. The trend is assessed as stable. The main pressures facing transition mires in Ireland are afforestation, water pollution, drainage and hydrological changes. Grazing/agricultural management is also prominent as an issue.
7150	The Overall Status is assessed as bad with a deteriorating trend. The change in status since 2013 is primarily due to use of a different method in the definition and interpretation of the habitat. The main pressures on the habitat are associated with impacts on the supporting bog habitats, especially overgrazing, burning, peat extraction, drainage and conversion to forestry.
7210	The Overall Status is assessed as Inadequate but stable. Improved knowledge/more data resulted in the status change since 2013 and the trend is considered to have been stable since before the last assessment.
7220	The Overall Status is assessed as Inadequate, which is unchanged since the last reporting period. The trend is assessed as deteriorating (reported as stable in 2013), which is due to

QI Habitat Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	improved knowledge, and decline is considered to have been ongoing since before the last assessment.
7230	The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution. The Overall Status is assessed as Bad with a deteriorating trend due to losses of area and habitat quality, as well as the pressures and threats faced by the habitat.
8110	The Overall Status is Inadequate, as in the 2013 assessment, but the trend has changed. Structure and functions were assessed as improving in the previous reporting period due to destocking associated with the Commonage Framework Plans; however, as overgrazing, undergrazing and succession were recorded as medium-importance pressures in this reporting period, and Structure and functions were again assessed as Inadequate, the trend is considered to be stable rather than improving. This change is due to improved knowledge and the habitat is considered to have been stable since before the last assessment
8120	The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with overgrazing, unchanged since the 2013 assessment.
8210	The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with overgrazing and the non-native invasive species New Zealand willowherb (Epilobium brunnescens). This is unchanged since the previous assessment in 2013.
8220	The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with the non-native invasive species New Zealand willowherb (Epilobium brunnescens). There have been no significant changes since 2013.
8240	The Overall Status is assessed as Inadequate due to continuing area losses associated with conversion to agricultural land and housing construction, as well as scrub encroachment caused by undergrazing. The trend is stable as some of these impacts are being offset to some degree by conservation measures undertaken in the Burren and Aran Islands. This is unchanged since the 2013 assessment.
8310	Although some threats have been identified, some of which might have appreciable localised effects, none is considered likely to have a significant impact on this habitat in Ireland. Overall the future prospects for this habitat are considered to be good. Although the overall conservation assessment for the lesser horseshoe bat in Ireland is now Inadequate due to a small contraction in range, these concerns do not relate to areas with bats in caves, and the Overall Status of caves is Favourable and stable, as it has been over the last two reporting periods. Many vulnerable bat caves are already protected from disturbance through grilling. Regular monitoring is underway and if further vulnerable cave sites are identified these will also be grilled.
8330	Sea caves appear to be extensive around the coast of Ireland, although their distribution along the south-east coast appears to be limited due to geological factors. The occurrence of sandstone/limestone is highly correlated with the formation of sea caves, accounting for nearly 85% of documented occurrences around Ireland. The Overall Status is assessed as Favourable as there are no pressures impacting on this habitat. This is the same assessment as in the last two reporting periods.
91A0	Historical habitat loss has occurred and still continues, although at a very low level. However, the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica) as well as overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands. Measures such as the Native Woodland Scheme are expected to have a positive long-term effect but are as yet insufficient to outweigh the pressures, as development of Annex-quality woodland takes decades. These pressures, in conjunction with the continued fragmentation of remaining stands, lead to an Overall Status of Bad with a deteriorating trend. The change in trend from improving in 2013 is due to the availability of more accurate data, particularly in relation to recent habitat loss, and decline is considered to have been on-going since before the last assessment.
91D0	A number of low-level pressures affect bog woodlands, including drainage, invasive species and burning, but none are considered significant enough at a national level to adversely affect the long-term viability of the habitat. The Overall Status is therefore Favourable with a stable trend, unchanged since the previous assessment.
91E0	A number of pressures affect this habitat in Ireland, the most serious being invasive species, particularly sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), Indian balsam

QI Habitat Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	(Impatiens glandulifera) and currant species (Ribes nigrum and R. rubrum). Some native species such as brambles (Rubus fruticosus agg.) and common nettle can also become over-vigorous. Small area losses due to clearfelling have also occurred. As a result, the Overall Status is bad, and the trend is declining. This poorer trend since the previous assessment is mainly due to the availability of more accurate data, and the decline is considered to have been ongoing since before the last assessment.
91J0	Pressures are mainly linked to the presence of alien species such as sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), cherry laurel (Prunus laurocerasus) and traveller's-joy (Clematis Vialba), with overgrazing by deer also posing a serious problem. The Overall Status of Yew woodland is therefore Bad. The change in trend from improving to stable since the previous assessment is due to improved knowledge and more accurate data, and the trend is considered to have been stable since before the last assessment.

Summary Status Description for QI Species in ROI

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
6985	The pressures identified are generally local issues and none were considered to be impacting on the long-term viability of the species or its habitat. The problem of invasive non-native species, identified at a number of sites, is difficult to manage as they often provide essential cover to Killarney fern colonies. The Overall Status of the species continues to be Favourable, as it has been over the last two assessments.
1528	There is no evidence of any major pressures currently impacting this species nationally, and therefore the Overall Status is assessed as Favourable.
1833	The species is threatened by enrichment (eutrophication), acidification and peatland damage. The Overall Status is assessed as Inadequate and the trend as deteriorating, because of population extinctions, population decreases and decreasing habitat quality in the current reporting period. The trend differs from the previous assessment because of the availability of improved data to inform the assessments.
6216	Although its population has almost certainly declined in historic times, due to loss of intact peatlands, recent surveys indicate that there continues to be sufficient good quality habitat to support the long-term survival of the species. There are also no significant pressures currently impacting the species. Therefore, the Overall Status is assessed as Favourable, as it has been for the last two assessments.
1395	Petalwort has an Atlantic-Mediterranean distribution and in Ireland is most common on the west coast. Some of the largest populations in the world are thought to occur in Ireland. The area and quality of the occupied habitat for the species is deemed to be sufficient for the species' long-term survival. There are also no negative pressures currently impacting seriously on the habitat at a national level. Therefore, the Overall Status is assessed as Favourable, the same result as the last two reporting periods.
1376/1377	The Overall Status of maërl is Bad and declining, due to deterioration in the quality of the maërl beds caused by the deposition of pseudofaeces and/or extensive algal cover on the beds, the presence of negative indicator species such as the opportunistic ascidian Ascidiella aspersa, and the presence of the invasive alien Sargassum muticum.
1400	Although some of the habitats in which the species occurs are impacted by pressures, there is enough habitat of sufficient quality to support the species and there is no evidence that pressures are operating to compromise the status of this species. Therefore, this species has been assessed as Favourable, as in the previous assessment, with a stable trend.
1409	Collection of Sphagnum spp. is unlikely to pose a conservation problem. However, although this genus occurs in many widespread habitats, the condition of these habitats is considered to be inadequate due to pressures such as peat extraction, drainage and eutrophication and as a result the taxon's future prospects are rated as Inadequate. The Overall Status for the group is thus Inadequate.
1413	The Overall Status of the Lycopodium sub-group is assessed as Unfavourable/Inadequate. This is based on unfavourable assessments for the Habitat for the species and Future prospects parameters for Huperzia selago and Lycopodium clavatum. Lycopodium clavatum also received an

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	unfavourable assessment for Population. The overall trend in conservation status was assessed as stable.
1378	The Overall Status of this taxon is Inadequate due to pressures on the habitats in which it occurs. This is unchanged since the previous reporting period.
1013	The Overall Status of V. geyeri is assessed as Bad and deteriorating. Grazing levels are considered critical at many sites, the species requiring areas of short vegetation within larger areas of wetland habitat, and given the small size of most sites, damage can happen very quickly. The species is considered very sensitive to changes in hydrology and this has been implicated in causing some of the losses from sites during the current and earlier reporting periods.
1014	The Overall Status of V. angustior is Inadequate and deteriorating. Grazing is critical for the maintenance of the habitat of V. angustior, especially on the extensive sand dune populations. These habitats are easily modified by inappropriate grazing, changes in stocking type and the impact of wild herbivores, especially rabbits. Sand dune systems have been impacted by leisure activities – caravan sites and golf courses, mainly – and expansion of these activities has exerted significant pressure on some large sites.
1016	The Overall Status of V. moulinsiana is assessed as Inadequate and deteriorating. The main pressures are associated with natural succession resulting in species composition change and drying out of the habitat. The sites are mainly unmanaged because of their natural wetness, so grazing and mowing are less significant on a national scale and equally should be easily rectified in the short and medium term.
1024	Studies have shown that the Kerry slug can be abundant on conifer trees. The species will also recolonise boulder habitat when the wood is clear-felled. The Overall Status is Favourable and improving, driven in part by the large populations in conifer plantations
1029	The Overall Status of M. margaritifera is Bad and deteriorating, unchanged since the 2013 assessment. The species is critically endangered in Ireland and across Europe, mainly because of habitat deterioration: a combination of hydrological and morphological changes, sedimentation and enrichment.
1092	The Overall Status of the species is Bad with a deteriorating trend. This represents a genuine decline since the last reporting period and is mainly due to bad Future prospects for the species due to the presence of the Crayfish Plague organism across six catchments.
1065	The Overall Status of the species is Inadequate but improving. There has been genuine spread into areas where there have not been previous records. Marsh Fritillary sites are often on marginal land in upland areas and the edges of wetlands and peatlands which are subject to pressures from agricultural conversion and afforestation.
1095	The Overall Status of this species is assessed as Bad with a stable trend, unchanged since the last 2013 assessment. Barriers to upstream migration (e.g. weirs) are considered the major impediment to good conservation status for sea lamprey as these limit access to spawning beds and juvenile habitat.
1096	Lamprey surveys in Ireland have necessarily focused on ammocoete abundances and to a lesser extent upon observations of adult spawning events. Distribution records can only be definitively assigned to one species or the other where adult records exist. For brook lamprey in Ireland there are extensive areas of suitable habitat and no significant pressures impacting this species. The Overall Status is therefore assessed as Favourable.
1099	The inability to distinguish between river lamprey and brook lamprey larvae, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken. The Overall Status for river lamprey is therefore assessed as Unknown. The previous reporting period used primarily juvenile Lampetra sp. distribution data for this species.
5046	The entire range of the Killarney shad is protected within Killarney National Park. The Overall Status is assessed as Favourable, as it has been in the last two assessments.
1103	The Overall Status of this species is assessed as Bad with a stable trend, unchanged from the previous assessment. A number of pressures were identified, mainly relating to pollution, alteration of flow patterns, and habitat disturbance. Introduced species were also recorded, with a large population of the Asian clam (Corbicula fluminea) recorded within kilometres of the twaite shad spawning ground on the River Barrow. Furthermore, barriers to migration, such as weirs, can impede or prevent twaite shad accessing spawning habitat, and can also increase the potential for

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	hybridisation between converging populations of twaite and Allis shad simultaneously obstructed below barriers.
5076	Pressures identified for the species include pollution due to agricultural fertiliser application and urban waste water discharge. Invasive species, specifically zebra mussel (Dreissena polymorpha) and Asian clam (Corbicula fluminea), have also been identified as a significant pressure. Water level regulation may become a concern, as significant alterations or fluctuations in water surface level could have a severe impact on the success of pollan spawning or on the survival of the newly released fertilised eggs. Introduced fish species, namely perch and roach, are a substantial component of the fish community in these lakes and may compete with pollan for food. The Overall Status is assessed as Bad, as in the previous two assessments, but the trend is now known to be stable.
1106	There is considered to be sufficient habitat in Ireland to support a viable salmon population. Freshwater quality in Ireland continues to remain a concern but ongoing pressures linked with habitat quality are not considered to be compromising the viability of the species. The Overall Status is assessed as Inadequate, the same as the last assessment. Although a short-term negative trend is reported for this species, the trend has reversed in the last 5 years. Therefore, an overall stable trend is reported.
6284	Poor water quality is the most common pressure on the species, followed by lack of grassland management and predation of tadpoles and eggs by invertebrates. Also of concern are ponds becoming overgrown with emergent vegetation, making them unsuitable for breeding. Invasive species – New Zealand pigmyweed (Crassula helmsii) and sea-buckthorn (Hippophae rhamnoides) – can also cause problems for the toad. Due to historical declines in range, the Overall Status of the natterjack toad is Bad, as in the previous two assessments. The change in overall trend (from increasing to stable) reflects the most recent survey data, which indicate that the uptake of constructed ponds has not continued at the rate seen in the previous report.
1213	The Common Frog appears largely unaffected in Ireland by pollution and disturbance. The most recent national survey estimated the population at over 150,000,000 adults, making it one of the most numerous vertebrates in the country. No significant threats to the frog population have been identified. Overall Status is considered to be Favourable.
1223	There are significant difficulties associated with reporting on this species. Despite some recent progress, the population ecology, range and habitat utilisation of this species in the North-East Atlantic are not well understood. Although there is evidence of significant declines of leatherbacks in the Pacific, there are some indications that the Atlantic populations may be faring better, with recent surveys suggesting that numbers of females may be increasing at some nesting beaches. Nonetheless, mortalities of nesting adults and juveniles is a cause for concern in some areas and fishing causes further mortality during the animal's trans-Atlantic migrations. The Overall Status of this species is assessed as Unknown.
1303	The population overall is doing well; monitoring has demonstrated significant increases in numbers in the core areas. Over much of its distribution, both range and the area of suitable habitat have remained stable. In Limerick and North Kerry, however, worrying declines in habitat, and consequently in range, have been observed. These are considered likely to continue without significant intervention. For these reasons, Habitat, Range and their associated Future prospects, which were all considered to be Favourable in the last report, are now considered Inadequate, and the Overall Status of this species is assessed as Inadequate and declining
1309	There is no indication of any major pressures currently impacting populations and future prospects are considered good. The Overall Status is assessed as Favourable and the overall trend is demonstrating an on-going increase.
5009	There is no indication of any significant pressures impacting on the species, and numbers appear to be increasing. The Overall Status of the species is therefore assessed as Favourable and improving, the same conclusion as the previous assessment.
1317	The population of Nathusius' pipistrelle in Ireland is cautiously estimated to be 3,000-5,000 individuals. It remains unclear whether the species is successfully reproducing here and what level of population would be required to ensure long-term viability. No pressures appear to be acting on the species, and there are many buildings similar to those used by nursery colonies in Northern Ireland, so suitable habitat does not appear to be a limiting factor. However, given the uncertainty about range and population, the Overall Status is assessed as Unknown, unchanged since the last assessment
1322	Building renovation and loss of foraging habitat are potential threats for this species but are not considered to be significant. There is no monitoring scheme in place for this species, but the most

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
	recent Red Data List for Irish Mammals lists Natterer's bat as Least Concern and the Overall Status has been assessed as Favourable, as in the last two assessments.
1314	Although some pressures/threats have been noted, there is no indication of any major pressures currently impacting on the species and future prospects are considered good. The Overall Status is assessed as Favourable and the overall trend is demonstrating an on-going increase.
1330	Building renovation and loss of foraging habitat are potential threats for this species but are not considered to be significant. There is no monitoring scheme in place for this species, but the most recent Red Data List for Irish Mammals lists whiskered bat as Least Concern and the Overall Status is assessed as Favourable, unchanged over the last two reporting periods.
1326	There is no indication of any major pressures currently impacting the population. The Overall Status is assessed as Favourable and the overall trend is demonstrating an ongoing increase.
1331	Two threats/pressures have been identified and need to be investigated further: wind energy, and the impact on roosts associated with deliberate/accidental exclusion from houses. However, there is no evidence of decline in range or habitat and future prospects are considered good. The Overall Status is assessed as Favourable and the overall trend is demonstrating an on-going increase.
1334	Agricultural intensification is leading to some reduction in habitat quality and a number of related threats have been identified, but the hare has a broad habitat niche, so the impacts of these changes on habitat extent and quality are unknown. The Overall Status of the hare is Favourable.
1355	The main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear). Although recent studies on territory overlaps and animal movements suggest that refinements to the population estimation formula are needed, the otter population (estimated at between 7,000 and 10,000 breeding females) is considered to be increasing and none of the threats or pressures identified are considered likely to impact significantly on the species. The Overall Status of otter is therefore considered to be Favourable, unchanged since the previous reporting period.
1357	There is ample habitat available across the country to allow the species to continue its spread and to allow the population to expand as well. While some threats have been identified, none of them are considered sufficiently serious to undermine the continued recovery of the species. Therefore, the Overall Status of the pine marten is assessed as Favourable, unchanged since the previous reporting period.
1364	Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as geophysical seismic exploration or local/regional prey removal by fisheries or by-catch in fisheries. While these pressures may act on a temporary and/ or regional scale and some are likely to continue to act as pressures in the future, none is considered sufficiently serious to adversely impact on grey seal populations in Irish waters. Given the current state of knowledge of the species' distribution, population, ecology and prevailing pressures, the Overall Status is Favourable with an increasing trend.
1365	Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as local/regional prey removal by fisheries or by-catch in fisheries, or geophysical seismic exploration; other possible impacts may occur from coastal tourism and localised human disturbance at haul-out sites. None of these pressures are considered to be of sufficient magnitude to adversely impact on populations of harbour seals in Irish waters. The Overall Status of the harbour seal in Ireland is considered to be Favourable, given the current knowledge of the species' population size, distribution, ecology and prevailing pressures on the species.
1345	Pressures acting on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from shipping movements, geophysical seismic exploration or local/regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of humpback whale in Irish waters. The Overall Status of humpback whale in Ireland remains Unknown. This overall result is the same as in the previous two assessments due to limited ongoing information on the species' occurrence and population ecology in Irish waters
1349	Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/ regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of bottlenose dolphin in Irish waters. The Overall Status of bottlenose dolphin in Ireland remains Favourable. This overall result is the same as the previous two assessments.

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
1350	Pressures acting on this species in Irish waters mainly involve commercial vessel-based activities such as impacts from geophysical seismic exploration or from local/ regional prey removal by fisheries. While these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of common dolphin in Irish waters. The Overall Status of common dolphin in Ireland remains Favourable. This overall result is the same as the previous assessment.
1351	Pressures acting on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/regional prey removal by fisheries. While these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of harbour porpoise in Irish waters. The Overall Status of harbour porpoise in Ireland remains Favourable. This overall result is the same as the previous two assessments.
2027	Pressures on this species in Irish waters involve potential pollutant burdens from man-made Polychlorinated Biphenyl compounds plus other persistent organic pollutants, as well as impacts from commercial vessel-based activities such as geophysical seismic exploration and local/regional prey removal by fisheries. With the exception of pollution, which could be having a significant and wider impact in the North-East Atlantic, no pressures are considered to be adversely impacting on populations of killer whale in Irish waters. The Overall Status of killer whale in Ireland remains Unknown. This overall result is the same as the previous two assessments since there has been no significant improvement in knowledge of the conservation status of the species.
2029	Pressures acting on this species in Irish waters mainly involve commercial vessel-based activities that occur primarily on a local or regional scale and/or on a temporary or intermittent basis, such as impacts arising from shipping movements or geophysical seismic exploration. None of these pressures are considered to be adversely impacting on populations of long-finned pilot whale in Irish waters. The Overall Status of long-finned pilot whale in Ireland remains Favourable, given the current knowledge of the species' population size, distribution, ecology and the prevailing pressures on the species. This overall result is the same as in the previous two assessments
2030	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. Another potential pressure is the use of military sonars in the deeper ocean and adjacent continental margins which, while not employed by the Irish Naval Service, is known and documented to occur in the waters of Ireland's EEZ. None of these pressures are considered to adversely impact populations of the species in Irish waters. The Overall Status of Risso's dolphin in Ireland is assessed as Favourable, given the current knowledge of the species' population size, distribution, ecology and the prevailing pressures on the species. This overall result is different from the previous two assessments, in which the status was assessed as Unknown, and it represents a significant improvement in knowledge of the conservation status of the species.
2031	Pressures acting on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. None of these are considered to be having an adverse impact on the population in Irish waters. The Overall Status of Atlantic white-sided dolphin in Ireland therefore remains Favourable, given the current knowledge of the species' population size, distribution, ecology and the prevailing pressures on the species. This overall result is the same as the previous two assessments
2032	The main pressures acting on this species in Irish waters involve commercial shipping-based or vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to be causing an adverse impact on populations of white-beaked dolphin in Irish waters. The Overall Status of white-beaked dolphin in Ireland remains Favourable, given the current knowledge of its population size, distribution, ecology and the prevailing pressures on the species. This overall result is the same as the previous assessment.
2034	The main pressures acting on this species in Irish waters involve commercial shipping-based or vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to be causing an adverse impact on populations of striped dolphin in Irish waters. The Overall Status of striped dolphin in Ireland remains Favourable, given the current knowledge of the species' distribution, ecology and the prevailing pressures on the species. This result is the same as the previous assessment.

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
2035	Pressures acting on this species in Irish waters mainly involve commercial shipping based or vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. Another potential pressure is the use of military sonars in the deeper ocean and adjacent continental margins which, while not employed by the Irish Naval Service, is known and documented to occur in the waters of Ireland's EEZ. None of these pressures are considered to be significantly impacting on populations of the species in Irish waters. The Overall Status of Cuvier's beaked whale in Ireland is assessed as Favourable. This is different from the previous two assessments (in which the status was assessed as Unknown), due to improved knowledge, higher quality data, and new methods used in the assessment of the conservation status of the species.
2038	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from geophysical seismic exploration and from local/regional prey removal by fisheries. None of these pressures are considered to be of sufficient magnitude to adversely impact on populations of Sowerby's beaked whale in Irish waters. The Overall Status of Sowerby's beaked whale in Ireland is assessed as Favourable. This is different from the previous two assessments (in which the status was assessed as Unknown), due to improved knowledge, higher quality data, and new methods used in the assessment of the conservation status of the species.
2618	Pressures on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from shipping movements, geophysical seismic exploration or from local/regional prey removal by fisheries. None of these pressures are considered to be of sufficient magnitude to adversely impact on populations of minke whale in Irish waters. The Overall Status of minke whale in Ireland remains Favourable, given current knowledge of the species' population size, distribution, ecology and prevailing pressures on the species. This overall result is the same as in the previous two assessments.
2621	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as shipping movements, geophysical seismic exploration or local/regional prey removal by fisheries. None of these are considered to be of sufficient magnitude to adversely impact on populations of fin whale in Irish waters. The Overall Status of fin whale in Ireland is assessed as Favourable, given the current knowledge of the species' distribution, ecology and prevailing pressures on the species. This overall result is the same as in the previous two assessments.
5020	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from shipping movements or geophysical seismic exploration. None of these are considered to be of sufficient magnitude to adversely impact on populations of blue whale in Irish waters. The Overall Status of the blue whale is considered to be Unknown due to limitations in information on its occurrence and population ecology in Ireland's extensive marine waters. This overall result is the same as in the previous two assessments.
2624	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from shipping movements or geophysical seismic exploration. None of these are considered to be of sufficient magnitude to adversely impact on populations of sperm whale in Irish waters. The Overall Status of sperm whale is assessed as Favourable given the current knowledge of the species' population size, distribution, ecology and prevailing pressures on the species. This is different from the previous Unknown assessments, due to improved knowledge, higher quality data, and new methods used in the assessment of its conservation status.
5033	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from geophysical seismic exploration and from shipping movements. Another potential pressure is the use of military sonars in the deeper ocean and adjacent continental margins which, while not employed by the Irish Naval Service, is known and documented to occur in the waters of Ireland's EEZ. None of these pressures are considered to adversely impact populations of the species in Irish waters. The Overall Status of the northern bottlenose whale is Unknown, as it was for the last two assessments, due to limited ongoing information on the species' occurrence and population ecology in Irish waters.
2619	Pressures acting on this species in Irish waters mainly involve commercial shipping-based or vessel-based activities such as impacts arising from shipping movements or geophysical seismic exploration. None of these are of sufficient magnitude to adversely impact on populations of sei whale in Irish waters. The Overall Status of sei whale in Ireland remains Unknown. This result is the same as in the previous two assessments due to limited ongoing information on the species' occurrence and population ecology in Irish waters.

QI Species Code	Summary Status Description (based on 2019 NPWS Article 17 Report)
1348	Little is now known about the occurrence or ecology of this species in the North-East Atlantic, while remnant populations inhabiting North American waters remain extremely vulnerable to ongoing human impacts and potential extinction. No live records have been confirmed from Irish waters in recent decades. In the last 50 years sightings have occurred very occasionally off the European continental shelf and in the mid-Atlantic.
2028	Little is known about the occurrence or ecology of this species in the North-East Atlantic, but it is assumed to be a tropical, sub-tropical and warm temperate deep-water species that feeds on fish and squid and which very occasionally occurs in offshore Irish waters. In the last 50 years rare sightings have occurred off the European continental shelf and in the mid-Atlantic, while only a few sporadic live records have been confirmed from Irish waters in the last 15-20 years.
2037	True's beaked whale (Mesoplodon mirus) is one of six species of cetacean (i.e., whales, dolphins and porpoises) that have been very rarely recorded in Irish waters and are therefore termed vagrant species. Difficult to identify in the open ocean, like many beaked whale species its presence and identifying features can be elusive in the field. True's beaked whales are also tricky to separate from their close relatives the Gervais' beaked whales but both are identifiable by a distinct medium-sized beak and adult male True's beaked whales have two prominent teeth at the tip of the lower jaw.
2622	Little is known about the population distribution or ecology of this species in the North-East Atlantic, but it is considered to be a deep-water species that feeds on squid and octopus, and which may occasionally occur in offshore Irish waters. Since only one live record has emerged so far from oceanic waters very far from shore, most information on the species in Ireland has come from the isolated and rare stranding of individual animals.
5029	Little is known about the occurrence or ecology of this species in the North-East Atlantic. It is normally a polar or sub-polar species found in Arctic regions where it feeds on fish and crustaceans. Only three live records have been confirmed from Ireland, one from County Mayo, another from County Cork, and the third sighting, comprising three individuals, made far offshore during an aerial survey in December 2015.
5034	Little is known about the occurrence or ecology of this species in the North-East Atlantic, but it is assumed to be a warm temperate or sub-tropical deep-water species that feeds on squid and possibly fish. Only one record is available from Ireland so far, that being from a stranding in County Sligo.
1102	The Allis shad (Alosa alosa) is a large member of the herring family. It spends much of its life in coastal waters and samples of marine-caught Allis shad have been collected off the south-east coast. This species enters freshwater to breed, with significant penetration of large rivers reported on the continent. There is some evidence of Allis shad entering Irish rivers, with one fish recorded some 40km from the sea on the Slaney. Nonetheless, only a small number of Allis shad have ever been recovered from Irish freshwaters and while there is good evidence of the presence of breeding populations of twaite shad in Irish rivers, the only evidence of breeding by Allis shad is the presence of Allis-twaite hybrids. No juvenile Allis shad have been found during survey work of Irish river systems. Overall it would appear that the Allis shad is an opportunistic spawner in Irish waters. Until evidence of an established breeding population is found, Allis shad is considered a vagrant.
1320	Brandt's bat (Myotis brandtii) is a cryptic species, requiring genetic determination to separate it from the whiskered bat (M. mystacinus). Following the initial confirmation of a specimen of Brandt's bat in Wicklow in 2006, further records were expected. However, extensive survey work at potential roosts and swarming sites since then has failed to locate any. The species is now considered a vagrant and was not assessed in the current report.

Appendix F
Dublin

Dublin

Dublin has eight SACs and nine SPAs within 15km of the city's centre. **Figure E-1** shows all European sites within 15km of the city's centre and **Table E-1** lists the QIs for each site and their threats and pressures as identified within the Article 17 (NPWS, 2019) reporting.

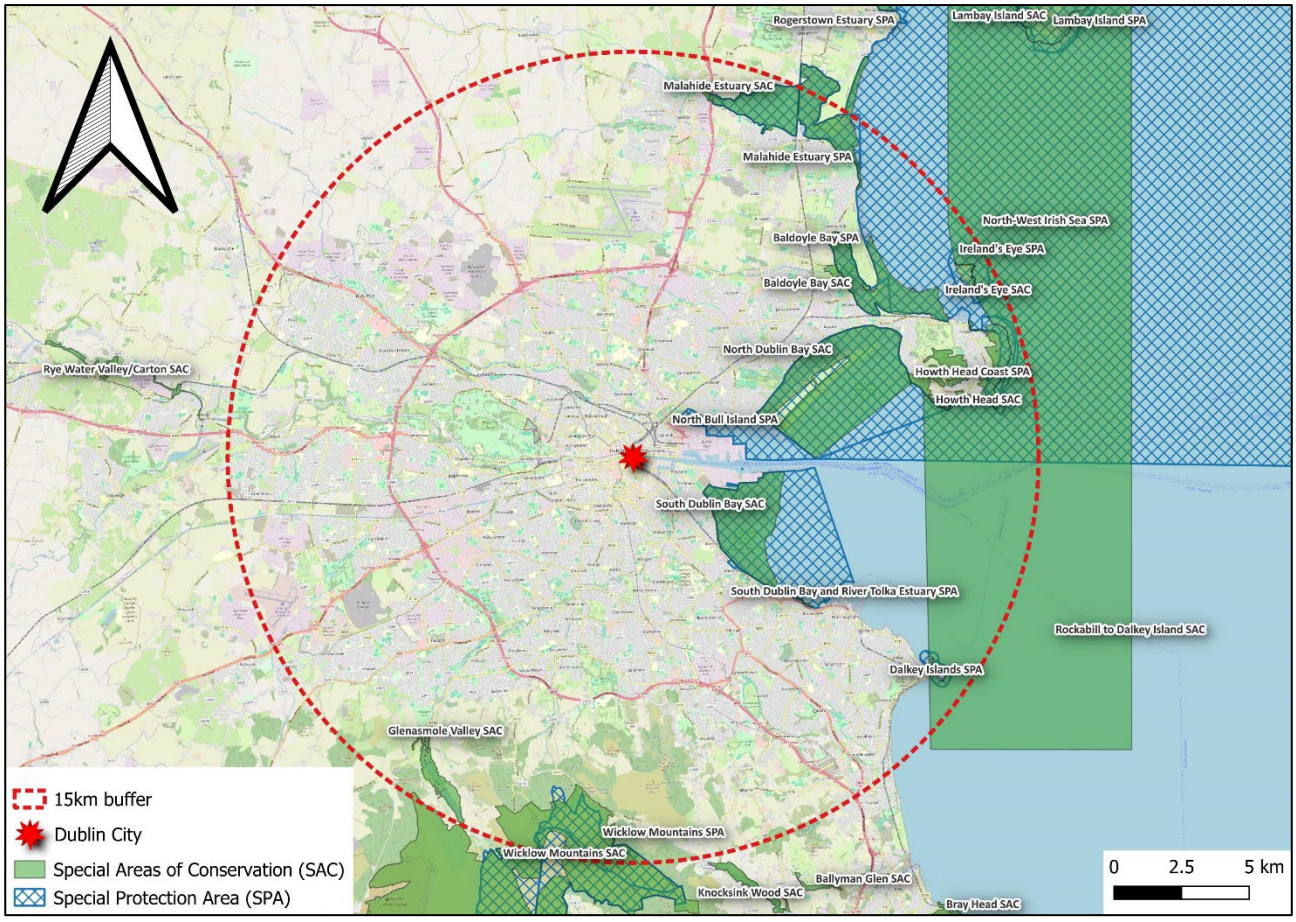

Figure F-1: European sites within 15km of Dublin city.

Table F-1: Threats and pressures of QIs of European sites with likely connectivity to Dublin City.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
Glenasmole Valley SAC 001209	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	▪ Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[1]. ▪ The problematic native species listed under I04 was *Pteridium aquilinum* (Bracken) and the most commonly recorded invasive species listed under I02 was *Cotoneaster integrifolius*. (NPWS, 2019b)[2].
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	▪ The main pressures on the habitat are associated with agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry. (NPWS, 2019a)[3].

[1] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 450

[2] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 648

[3] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6410 Molinia Meadows, page 30

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Petrifying springs with tufa formation (*Cratoneurion*) [7220]	**Inadequate**	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (H) **F07** Sports, tourism and leisure activities (M) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) K02 Drainage (H) **K04** Modification of hydrological flow (H)	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **H08** Other human intrusions and disturbance not mentioned above (H) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) **K02** Drainage (H) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ The highest impact was deemed to be from 'Landfill, land reclamation and drying out, general (**J02.01**)'. This ties in with **E01**, **H08** and **K02** identified in the current assessment. Other important impacts included those relating to abandonment, water pollution, trampling/overuse/ intensive grazing. All of these have strong parallels in the current assessment (e.g. **J01**, **A06**, **H08**). Climate change has not been included as an impact but it is likely to affect this habitat in Ireland in decades to come (NPWS, 2019b)[4].
Wicklow Mountains SAC 002122	NPWS (2005) *Management Plan for Wicklow Mountains National Park 2005-2009*[5] ▪ Urban Pressures Wicklow Mountains National Park adjoins and is closely associated with the city of Dublin and its smaller satellite towns and villages, such as Laragh, Enniskerry, Bray, Blessington and Roundwood. This brings benefits such as the provision of accommodation and services for National Park visitors, but it also poses problems not experienced by National Parks in more remote places. These include pressure from recreational use and visitor access at particular locations. It is essential that the significance for WMNP of developments within adjacent areas are recognised and taken into account. ▪ Section 7.1 Management Issues o Litter, Dumping, Graffiti and Fly Posting o Unregulated visitor numbers + damage from recreational use o Water quality				
	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) **A31** Drainage for use as agricultural land (H) **B27** Modification of hydrological conditions, or physical alteration of water	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) A31 Drainage for use as agricultural land (H) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H)	▪ …is under significant pressure from eutrophication, and from drainage and other damage to peatland. (NPWS, 2019a)[6]. ▪ Damage to peatland can result in hydrological changes in lakes, increased organic matter, water colour and turbidity, changes in sediment characteristics, acidification and enrichment. (NPWS, 2019a)[7]. ▪ Pollution with dissolved and particulate organic matter and nutrients, as well as fine

[4] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional information, page 886

[5] https://www.npws.ie/sites/default/files/publications/pdf/WMNP.pdf

[6] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

[7] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			bodies and drainage for forestry (including dams) (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	**F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	sediment and increased water colour, are significant concerns for habitat 3110. (NPWS, 2019b)[8]. ▪ F12 covers discharges from both urban waste-water (UWW) treatment plants (sewered) and on-site systems (unsewered). Onsite systems are more common pressures in the catchments of 3110 lakes. (NPWS, 2019b)[9]. ▪ Abstractions for drinking water (F33) or other purposes (F34, A30, C14) are considered to be pressures of low importance, as they impact on relatively few 3110 lakes. It is possible, however, that abstractions may be a more significant threat, in combination with predicted droughts owing to climate change. (NPWS, 2019b)[10].
	Natural dystrophic lakes and ponds [3160]	**Inadequate**	**B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **A31** Drainage for use as agricultural land (M) **D08** Energy production and transmission activities generating pollution to surface or ground waters (M)	**B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **A31** Drainage for use as agricultural land (M) **D08** Energy production and transmission activities generating pollution to surface or ground waters (M)	▪ On-going damage to peatland results in hydrological changes in lakes and ponds with the habitat, as well as increased sedimentation, colour, turbidity, organic material and ammonia (NPWS, 2019a)[11]. ▪ The habitat is also significantly impacted by indirect pressures in the upstream catchment. Drainage (C05, B27, A31) can cause hydrological changes in dystrophic lakes and ponds, while the resultant mineralization of peat increases losses of ammonia and dissolved and particulate organic fractions (C05, B23, A26). These pollutants in turn cause increased colour and turbidity, increased sedimentation and enrichment of dystrophic lakes and ponds. Enrichment in these instances is through increased biomass of the bacteria and fungi that can utilise organic matter, as well as of primary producers. The loss of organic acids

[8] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 367

[9] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 368

[10] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 368

[11] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3160 Acid Oligotrophic Lake Habitat, page 25

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					from drained and degraded peatland has also been demonstrated to result in acid episodes is Irish streams; however, there is less evidence for acidification of lakes and ponds. Conifer forest on peatland results in high pollutant loads (B23), owing to the practices of fertilising crops (B19). Direct loss of dissolved nutrients can occur during fertilisation (B23). Significant losses of both organic matter and nutrients occur following tree-felling (B09, B12), where slow decomposition of conifer needles, branches and roots leads to significant losses of organic matter and, ultimately, nutrients (B23). Pollution with dissolved and particulate organic matter, as well as fine sediment (A26), can also arise from agriculture through overgrazing of peatland (A09), as well as burning (A11). Pollution (D08) also results from drainage and disturbance of peatland for wind farm development (D01). (NPWS, 2019b)[12].
	Northern Atlantic wet heaths with *Erica tetralix* [4010]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A27** Agricultural activities generating air pollution (H) **D01** Wind, wave and tidal power, including infrastructure (M) **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A27** Agricultural activities generating air pollution (H) **D01** Wind, wave and tidal power, including infrastructure (M) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Uncontrolled burning [A11 (Burning for agriculture)] can be particularly damaging to the bryophyte layer within 4010 habitat, and can result in peat erosion, desiccation of the habitat and loss of dwarf shrubs which can result in succession to grassland habitats (Hampton, 2008). (NPWS, 2019b)[13]. ▪ Area losses have continued into the current reporting period due to new forestry, paths, tracks and land clearance. Overgrazing, burning, wind farm development and erosion continue to be issues for this habitat. Nitrogen deposition from agricultural activities that generate air pollution has recently been recognised as negatively impacting this habitat. Furthermore, climate change is acknowledged to be a potential future threat to wet heath, as it is expected

[12] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 453

[13] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 534

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					to cause rises in temperature and decreases in precipitation. (NPWS, 2019a)[14].
	European dry heaths [4030]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ A number of significant pressures were recorded for this habitat in the current reporting period, particularly overgrazing by sheep and burning for agriculture. Both cause habitat degradation and loss through erosion. Afforestation and wind farms are also recognised as problems for Dry heath. (NPWS, 2019a)[15]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), **A36** (Agriculture activities not referred to above) (i.e. agricultural intensification), **C01** (Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell)), **E01** (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), **F01** (Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)), **H06** (Closure or restrictive access to site/habitat) (i.e. fencing**), J03** (Mixed source air pollution, air-borne pollutants) and **L06** (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)), recorded in NPWS (2013a) but not in this reporting period, were retained as low importance pressures for the current reporting period. **F07** (Sports, tourism and leisure activities), **I02** (Other invasive alien species (other than species of Union concern)), **I04** (Problematic native species), **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), **L02** (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), and **M05** (Collapse of terrain, landslide), were recorded in both the

[14] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4010 Wet Heath, page 27

[15] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4030 Dry Heath, page 27

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					previous and current reporting periods. They have also been retained as low-importance pressures. Climate change (under two separate codes, **N01** and **N02**) is assessed as a low-importance pressure, but is considered to be a medium importance threat to 4030. (NPWS, 2019b)[16].
	Alpine and Boreal heaths [4060] **Bad**		**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Sheep grazing is widespread in uplands where this habitat occurs and is a problem for the habitat where grazing levels are high. Hill walking is often concentrated on the summits and ridges where this habitat is found, and can cause erosion and damage to the habitat. Agricultural activities that cause air pollution and consequently nitrogen deposition are also considered to cause significant impacts. Climate change is recognised as a potential future threat to the habitat in the future, particularly in the context of rising temperatures and decreases in precipitation. (NPWS, 2019a)[17]. ▪ D01 (Wind, wave and tidal power) was recorded as a low importance pressure in the previous reporting period. A review of Irish wind farm developments has indicated that 40.3% of wind farms are located within 2 km of 4060 habitat … D01 is retained as a low-importance pressure for this reporting period. A (NPWS, 2019b)[18]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), I02 (Other invasive alien species (other than species of Union concern)), I04 (Problematic native species) and J03 (Mixed source air pollution, airborne pollutants), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance

[16] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 567

[17] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4060 Alpine and Subalpine Heath, page 28

[18] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 596

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					pressures for the current reporting period. (NPWS, 2019b)[19]. ▪ B01 (Conversion to forest from other land uses, or afforestation (excluding drainage)), E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) and M05 (Collapse of terrain, landslide), recorded in the current reporting period only, were assessed as low-importance pressures. Approximately 0.01% of the known national 4060 habitat area (0.02 km^2) is either adjacent to or has some evidence of new forestry (i.e. planted within the current reporting period) within it (using PrivateForests2016.shp in conjunction with the 4060 distribution polygon shapefile). It is assessed as a low-importance pressure for this reporting period due to the relatively small area of known 4060 habitat impacted, but actual areas impacted are likely to be higher, particularly outside of designated sites. E01 and M05 were assessed as low-importance pressures due to the fact that they occurred just once each, both with a small footprint on the 4060 habitat. (NPWS, 2019b)[20].
	Calaminarian grasslands of the *Violetalia calaminariae* [6130]	**Inadequate**	**L01** Abiotic natural processes (H) **L02** Natural succession resulting in species composition change (H) **F07** Sports, tourism and leisure activities (M)	**L01** Abiotic natural processes (H) **L02** Natural succession resulting in species composition change (H) **F07** Sports, tourism and leisure activities (M)	▪ Pressures are associated with abiotic natural processes (leaching of metals) and succession, as well as impacts from recreational activities (walking/hiking). (NPWS, 2019a)[21]. ▪ The main pressures acting on Calaminarian grassland, recorded from 29 sites surveyed in 2018, were L01 Abiotic natural processes (17 sites), L02 Natural succession (14 sites), F07 Sports, tourism and leisure activities (13 sites), A10 Extensive grazing (11 sites) and F09 Deposition of waste (10 sites). Impact

[19] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 597

[20] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 597

[21] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6130 Calaminarian Grassland, page 29

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					intensity ranged from low to high for these five pressures. (NPWS, 2019b)[22]. ▪ Other negative pressures recorded include dumping of waste, removal and excavation of spoil and pollution from agricultural and urban sources. Urban pollution is a significant and pressing threat at Knockmahon Village [approx. 10km SW of Waterford City], an important site that supports populations of four rare metallophyte species, and is also showing signs of encroachment by gorse scrub. (NPWS, 2019b)[23].
	Species-rich *Nardus* grasslands, **Bad** on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]		**I04** Problematic native species (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices (M)	**I04** Problematic native species (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices (M)	▪ The Overall Status is assessed as Bad due to on-going pressures such as bracken encroachment and succession (NPWS, 2019a)[24]. ▪ In the previous reporting period sheep grazing in the uplands, both undergrazing and overgrazing, was recorded under 'A04.02.02 non intensive sheep-grazing'. Using the crosswalk referenced in the backing document 'NSUH17_AR1719_pressures_assessment_01a.xlsx' to convert the old impact codes to the new impact recording scheme, A04.02.02 crosswalks to A10 (Extensive grazing or undergrazing by livestock). However at times the recorded impact should be considered under A09 (Intensive grazing or overgrazing by livestock). NPWS, 2019b)[25]. ▪ B01 (Conversion to forest from other land uses, or afforestation (excluding drainage), E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) and F07 (Sports, tourism and leisure activities), recorded within the

[22] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 631

[23] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 632

[24] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6230 Species-rich *Nardus* Grasslands*, page 30

[25] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 668

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					previous reporting period only, were retained as low-importance pressures of 6230 habitat for this reporting period. A02 (Conversion from one type of agricultural land use to another) was added as a low importance pressure for 6230 habitat for this reporting period based on expert judgement. It refers to the conversion of 6230 habitat into more intensively managed grassland areas. Fertilisation (A02) was added as a low importance threat to 6230 in the previous reporting period as "the improvement of marginal land through fertilisation and reseeding continues to have an impact on the 6230 habitat" (NPWS, 2013a)… It is likely that both A02 and B01 are medium-importance pressures and threats; however due to a paucity of monitoring data for 6230 habitat, there is currently no evidence to support this assumption. Both impacts are therefore assessed as low-importance pressures and threats for this reporting period. NPWS, 2019b)[26].
	Blanket bogs (* if active bog) [7130]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **A27** Agricultural activities generating air pollution (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **C05** Peat extraction (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **K02** Drainage (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **A27** Agricultural activities generating air pollution (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **C05** Peat extraction (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **K02** Drainage (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on blanket bogs are overgrazing, burning, afforestation, peat extraction, and agricultural activities causing nitrogen deposition. Erosion, drainage and wind farm construction are other issues of concern. (NPWS, 2019a)[27]. ▪ K02 (Drainage) was recorded as a medium-importance pressure in NPWS (2013a), and was retained as a medium-importance pressure for this reporting period. Drainage of 7130 habitat is usually the first step carried out when attempting to develop the habitat in some way (e.g. for forestry or agriculture). Lindsay et al. (2014b) state that the "main long-term effect of drainage is to re-shape the bog itself, with major implications for water, carbon and biodiversity". K02 was recorded within 7130

[26] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 668-669

[27] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7130 Blanket Bog (*Active), page 33

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				N02 Droughts and decreases in precipitation due to climate change (M)	habitat in the Caha Mountains SAC (000093) (0.9% of 7130 habitat) (Perrin et al., 2014b), as well as within 7130 habitat in Eshbrack Bog NHA (001603) (Hodd & Barron, 2015) and 7130 areas surveyed by Foss et al. (2015)….. The low-importance pressures A36 (Agriculture activities not referred to above) (i.e. agricultural intensification), J03 (Mixed source air pollution, air-borne pollutants), L06 (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)) and N (Climate change), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), F07 (Sports, tourism and leisure activities), I02 (Other invasive alien species (other than species of Union concern)) and M05 (Collapse of terrain, landslide), were recorded in both the previous and current reporting periods. They have also been retained as low-importance pressures. J04 (Mixed source soil pollution and solid waste (excluding discharges)), recorded within the current reporting period only, was also assessed as a low-importance pressure for 7130 habitat, largely due to the small area of impact.(NPWS, 2019b)[28].
	Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (M) **A10** Extensive grazing or undergrazing by livestock (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**A09** Intensive grazing or overgrazing by livestock (M) **A10** Extensive grazing or undergrazing by livestock (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ overgrazing, undergrazing and succession were recorded as medium-importance pressures in this reporting period. (NPWS, 2019a)[29]. ▪ The low-importance impact J03 (Mixed source air pollution, air-borne pollutants), recorded in NPWS (2013a) but not in this reporting period, was retained as a low-importance pressure for the current reporting period. A11 (Burning for

[28] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 796-797

[29] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8110 Siliceous Scree, page 36

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					agriculture), recorded within the current reporting period only, was also assessed as low importance for 8110 habitat due to low frequency and area impacted upon. Climate change (N) was ranked as a low importance threat in NPWS (2013a). It is predicted to impact on the occurrence of arctic-alpine plants in Ireland (EPA 2017; Wyse Jackson 2007) and some of these are found in high-quality examples of the 8110 habitat.(NPWS, 2019b)[30].
	Calcareous rocky slopes with chasmophytic vegetation [8210]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (M) **A27** Agricultural activities generating air pollution (H) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (M) **A27** Agricultural activities generating air pollution (H) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with overgrazing and the non-native invasive species New Zealand willowherb (*Epilobium brunnescens*) (NPWS, 2019a)[31]. ▪ The low-importance impact J03 (Mixed source air pollution, airborne pollutants), recorded in NPWS (2013a) but not in this reporting period, was retained as a low-importance pressure for the current reporting period. A11 (Burning for agriculture), recorded within the current reporting period only, was also assessed as low importance for 8210 habitat. Climate change (N) was ranked as a low-importance threat in NPWS (2013a). It is predicted to impact on the occurrence of arctic-alpine plants in Ireland (EPA, 2017; Wyse Jackson, 2007) and some of these are found in high-quality examples of the 8210 habitat.(NPWS, 2019b)[32].
	Siliceous rocky slopes with chasmophytic vegetation [8220]	**Inadequate**	**I02** Other invasive alien species (other than species of Union concern) (M)	**I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with overgrazing and the non-native invasive species New Zealand willowherb (*Epilobium brunnescens*). This is unchanged since the

[30] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 932

[31] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8210 Calcareous Rocky Slopes, page 37

[32] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 971

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					previous assessment in 2013. (NPWS, 2019a)[33]. ▪ A09 (Intensive grazing or overgrazing by livestock) was recorded … with medium intensity …. Overgrazing can lead to erosion, nitrogen enrichment and damage to the vegetation of the 8220 habitat, with erosion (L01) also recorded …. A09 was assessed as a low-importance pressure …. F07 (Sports, tourism and leisure activities) … and I02 (Other invasive alien species (other than species of Union concern)) …. Based on evidence collected over the last two reporting periods and expert opinion, F07 was retained as a low importance pressure for 8220 habitat. The presence of *Epilobium brunnescens* was the main reason for 8220 habitat monitoring stops failing the Structure and functions assessment in the previous reporting period….. A11 (Burning for agriculture), recorded within the current reporting period only, was also assessed as low importance for 8220 habitat due to low frequency and area impacted upon…I04 (Problematic native species) (goats) was recorded…L01 (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)) in the form of erosion was also recorded…Climate change (N) was ranked as a low-importance threat…Erosion (L01) and overgrazing were also recorded as low-importance threats to the 8220 habitat within this reporting period..(NPWS, 2019b)[34].
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (*Prunus laurocerasus*) and beech (*Fagus sylvatica*), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These

[33] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8220 Calcareous Rocky Slopes, page 37

[34] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 992- 994

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					pressures, in conjunction with the continued fragmentation of remaining stands, lead to an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[35]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal diseases, pathogens and pests (1 site).(NPWS, 2019b)[36].
	Lutra lutra (Otter) [1355]	**Favourable**	No pressures	No threats	▪ The main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear)[37].
Wicklow Mountains SPA 004040	Merlin (*Falco columbarius*) [A098]				
	Peregrine (*Falco peregrinus*) [A103]				
Rockabill to Dalkey Island SAC 003000	NPWS (2013) Rockabill to Dalkey Island SAC (site code: 3000). *Conservation objectives supporting document - Marine Habitats and Species. Version 1* *In general, it was noted that where the reef was subjected to the effects of sediment, either through scouring or settlement of silt, low numbers of species and individuals occurred. Anthropogenic disturbance may be considered significant when it causes a change in biotic and/or abiotic variables in excess of what could reasonably be envisaged under natural processes.* *any significant anthropogenic disturbance should be avoided*				

[35] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

[36] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

[37] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1355 Otter, page 62

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	2.1 Significant anthropogenic disturbance may occur with such intensity and/or frequency as to effectively represent a continuous or ongoing source of disturbance over time and space (e.g. effluent discharge within a given area). *2.2 Some activities may cause significant disturbance but may not necessarily represent a continuous or ongoing source of disturbance over time and space. This may arise for intermittent or episodic activities for which the receiving environment would have some resilience and may be expected to recover within a reasonable timeframe relative to the six-year reporting cycle (as required under Article 17 of the Directive). This Department is satisfied that such activities could be assessed in a context specific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.*				
	Reefs [1170]	**Inadequate**	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	▪ The main pressures on reefs come from fishing methods that damage the seafloor. As a result the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys. (NPWS, 2019a)[38]. ▪ The invasive alien species *Sargassum muticum* has been noted as an increased pressure on intertidal reef areas where it has become established in rock pools within this habitat. The collection of marine algae, particularly *Ascophyllum nodosum*, on a commercial scale has been carried out on intertidal reefs within Irish SACs for many years and continues to have a medium impact on this habitat. The mechanical harvesting of subtidal kelp beds is now identified as a potential future threat. The use of nets for the capture of commercial species has been identified as a significant threat to subtidal reef habitat (Scally et al., in prep.). The use of towed and static gear on reef habitats for the capture of fish and crustaceans is common throughout the majority of reef habitat. Offshore reef is particularly vulnerable to bottom towed gear which will result in what must be considered as permanent loss to the keystone communities there, given the extremely slow-growing nature of these ecosystems (NPWS, 2019b)[39].

[38] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1170 Reefs, page 14

[39] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 87

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Phocoena phocoena (Harbour Porpoise) [1351]	**Favourable**	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	▪ Pressures acting on this species in Irish waters mainly involve commercial vessel based activities such as impacts arising from geophysical seismic exploration or from local/regional prey removal by fisheries. While these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of harbour porpoise in Irish waters. (NPWS, 2019a)[40]. ▪ The main pressures thought to be acting on this species in Irish waters are considered to involve commercial shipping-based or vessel-based activities that occur primarily on a local or regional scale and/or on a temporary or intermittent basis (e.g., impacts arising from geophysical seismic exploration; impacts from local/regional prey removal by fisheries or by-catch in fisheries; DEHLG, 2009). (NPWS, 2019b)[41].
Dalkey Islands SPA 004172	Roseate Tern (*Sterna dougallii*) [A192]				
	Common Tern (*Sterna hirundo*) [A193]				
	Arctic Tern (*Sterna paradisaea*) [A194]				
North-West Irish Sea SPA 004236	Red-throated Diver (*Gavia stellata*) [A001]				
	Great Northern Diver (*Gavia immer*) [A003]				
	Fulmar (*Fulmarus glacialis*) [A009]				
	Manx Shearwater (*Puffinus puffinus*) [A013]				
	Cormorant (*Phalacrocorax carbo*) [A017]				
	Shag (*Phalacrocorax aristotelis*) [A018]				
	Common Scoter (*Melanitta nigra*) [A065]				
	Little Gull (*Larus minutus*) [A177]				

[40] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1351 Harbour porpoise *Phocoena phocoena*, page 66

[41] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 690-691

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]				
	Common Gull (*Larus canus*) [A182]				
	Lesser Black-backed Gull (*Larus fuscus*) [A183]				
	Herring Gull (*Larus argentatus*) [A184]				
	Great Black-backed Gull (*Larus marinus*) [A187]				
	Kittiwake (*Rissa tridactyla*) [A188]				
	Roseate Tern (*Sterna dougallii*) [A192]				
	Common Tern (*Sterna hirundo*) [A193]				
	Arctic Tern (*Sterna paradisaea*) [A194]				
	Little Tern (*Sterna albifrons*) [A195]				
	Guillemot (*Uria aalge*) [A199]				
	Razorbill (*Alca torda*) [A200]				
	Puffin (*Fratercula arctica*) [A204]				
South Dublin Bay SAC 000210	NPWS (*2013) South Dublin Bay SAC (site code: 0210). Conservation objectives supporting document - Marine Habitats. Version 1* *Anthropogenic disturbance may be considered significant when it causes a change in biotic and/or abiotic variables in excess of what could reasonably be envisaged under natural processes. The capacity of the habitat to recover from this change is obviously an important consideration (i.e. habitat resilience) thereafter.* *1. …. any significant anthropogenic disturbance should be avoided* *2.1 Significant anthropogenic disturbance may occur with such intensity and/or frequency as to effectively represent a continuous or ongoing source of disturbance over time and space (e.g. effluent discharge within a given area).* *2.2 Some activities may cause significant disturbance but may not necessarily represent a continuous or ongoing source of disturbance over time and space. This may arise for intermittent or episodic activities for which the receiving environment would have some resilience and may be expected to recover within a reasonable timeframe relative to the six-year reporting cycle (as required under Article 17 of the Directive). This Department is satisfied that such activities could be assessed in a contextspecific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.*				
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (*Magallana gigas*). (NPWS, 2019a)[42].

[42] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			G16 Marine aquaculture generating marine pollution (H)	**G16** Marine aquaculture generating marine pollution (H)	▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[43].
	Annual vegetation of drift lines [1210]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	▪ The Overall Status is assessed as Inadequate due to pressures associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics, and the fact that the current area is still below the favourable reference area. The trend is deteriorating due to anthropogenic area losses. This assessment is unchanged since the 2013 report. (NPWS, 2019a)[44]. ▪ Pressures and threats noted less frequently and/or that impacted only small areas were deemed to be of low importance. Low importance pressures listed in NPWS (2013) include **C07** Dumping/depositing of dredged materials from marine extraction, **F09** Deposition and treatment of waste/garbage from household/recreational facilities (in the form of litter) and **H08** Other human intrusions and disturbance not mentioned above. Three low importance pressures recorded during the current reporting period were **I02** Other invasive alien species (other than species of Union concern), **L01** Abiotic natural processes (e.g. erosion, silting up,

[43] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[44] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1210 Drift Lines, page 15

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					drying out, submersion, salinization), and **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices).(NPWS, 2019b)[45].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[46]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[47].
	Embryonic shifting dunes [2110]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M)	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M)	▪ The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with recreation and coastal defences, which can interfere with sediment dynamics. This assessment is unchanged since the 2013 assessment. (NPWS, 2019a)[48]. ▪ The only low-importance impact recorded in NPWS (2013) was **A09** Intensive grazing or overgrazing by livestock and this was retained as a low-importance pressure for the current reporting period. …Climate change was ranked as a high pressure and threat for 2110 in NPWS (2013); however, it has not been added as an impact in this

[45] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 113

[46] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[47] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

[48] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2110 Embryonic Shifting Dunes, page 19

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**E03** Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	reporting period but it is likely to affect the range of 2110 over the coming decades. (NPWS, 2019b)[49].
South Dublin Bay and River Tolka Estuary SPA 004024	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Oystercatcher (Haematopus ostralegus) [A130]				
	Ringed Plover (Charadrius hiaticula) [A137]				
	Grey Plover (Pluvialis squatarola) [A141]				
	Knot (Calidris canutus) [A143]				
	Sanderling (Calidris alba) [A144]				
	Dunlin (Calidris alpina) [A149]				
	Bar-tailed Godwit (Limosa lapponica) [A157]				
	Redshank (Tringa totanus) [A162]				
	Black-headed Gull (Chroicocephalus ridibundus) [A179]				
	Roseate Tern (Sterna dougallii) [A192]				
	Common Tern (Sterna hirundo) [A193]				
	Arctic Tern (Sterna paradisaea) [A194]				
	Wetland and Waterbirds [A999]				
North Dublin Bay SAC	NPWS (*2013) North Dublin Bay SAC (site code: 0206). Conservation objectives supporting document - marine habitats*. Version 1				

[49] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 233-234

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
000206	*Anthropogenic disturbance may be considered significant when it causes a change in biotic and/or abiotic variables in excess of what could reasonably be envisaged under natural processes. The capacity of the habitat to recover from this change is obviously an important consideration (i.e. habitat resilience) thereafter.* *1. …. any significant anthropogenic disturbance should be avoided* *2.1 Significant anthropogenic disturbance may occur with such intensity and/or frequency as to effectively represent a continuous or ongoing source of disturbance over time and space (e.g. effluent discharge within a given area).* *2.2 Some activities may cause significant disturbance but may not necessarily represent a continuous or ongoing source of disturbance over time and space. This may arise for intermittent or episodic activities for which the receiving environment would have some resilience and may be expected to recover within a reasonable timeframe relative to the six-year reporting cycle (as required under Article 17 of the Directive). This Department is satisfied that such activities could be assessed in a contextspecific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.* NPWS (*2013) North Dublin Bay SAC (site code 206) Conservation objectives supporting document -coastal habitats*. Version 1[50] *Within North Bull Island, the ASM topography is well developed and there is a very complex creek and salt pan structure. The creeks are functioning adequately though there has been some disturbance of the drainage of the saltmarsh with several drains crossing the saltmarsh from the golf courses. These drains were dug some time ago. Within the MSM, there are some small saltpans present. Creeks do not generally reach this high up the saltmarsh but some canalised drains from the golf course cross this habitat (McCorry, 2007).* *4.4.7 Vegetation composition: typical species & sub-communities Species diversity and plant distribution in dunes is strongly controlled by a range of factors, including mobility of the substrate, grazing intensities, moisture gradients, nutrient gradients and human disturbance.* *Activities occurring outside the site include golf courses (601), amenity use (620) and the causeway (870). Golf courses (601) mark the landward side of both the north and southern saltmarshes, with the boundary marked by an embankment and or a fence. These have an outside impact with disturbance to the wildlife. Some of the creeks on the saltmarsh have been canalised and act as drains from the golf courses.* *CONSERVATION STATUS Overall this site has a favourable conservation status (Table 5.1). This site is one of the best examples of saltmarsh habitat in Ireland and is an excellent example of zonation of saltmarsh plant communities. The habitats are located within a Nature Reserve where the primary objective is nature conservation. There are some negative impacts due to disturbance activities relating to the amenity use of the island. However, these activities have a low impact on the saltmarsh structure and functions.*				
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (*Magallana gigas*). (NPWS, 2019a)[51]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was

[50] https://www.npws.ie/sites/default/files/publications/pdf/North%20Dublin%20Bay%20SAC%20(000206)%20Conservation%20objectives%20supporting%20document%20-%20coastal%20habitats%20[Version%201%7D.pdf

[51] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[52].
	Annual vegetation of drift lines [1210]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	▪ The Overall Status is assessed as Inadequate due to pressures associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics, and the fact that the current area is still below the favourable reference area. The trend is deteriorating due to anthropogenic area losses. This assessment is unchanged since the 2013 report. (NPWS, 2019a)[53]. ▪ Pressures and threats noted less frequently and/or that impacted only small areas were deemed to be of low importance. Lowimportance pressures listed in NPWS (2013) include **C07** Dumping/depositing of dredged materials from marine extraction, **F09** Deposition and treatment of waste/garbage from household/recreational facilities (in the form of litter) and **H08** Other human intrusions and disturbance not mentioned above. Three low importance pressures recorded during the current reporting period were **I02** Other invasive alien species (other than species of Union concern), **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), and **L02** Natural succession resulting in species composition change (other than by direct changes of

[52] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[53] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1210 Drift Lines, page 1.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					agricultural or forestry practices).(NPWS, 2019b)[54].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[55]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[56].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (*Spartina anglica*). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[57]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[58].

[54] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 113

[55] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17.

[56] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

[57] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[58] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			I02 Other invasive alien species (other than species of Union concern) (M)	**I02** Other invasive alien species (other than species of Union concern) (M)	
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[59]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[60].
	Embryonic shifting dunes [2110]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E03** Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E03** Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of	▪ The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with recreation and coastal defences, which can interfere with sediment dynamics. This assessment is unchanged since the 2013 assessment. (NPWS, 2019a)[61]. ▪ The only low-importance impact recorded in NPWS (2013) was **A09** Intensive grazing or overgrazing by livestock and this was retained as a low-importance pressure for the current reporting period. …Climate change was ranked as a high pressure and threat for 2110 in NPWS (2013); however, it has not been added as an impact in this reporting period but it is likely to affect the range of 2110 over the coming decades. (NPWS, 2019b)[62].

[59] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean Salt Meadows, page 18

[60] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[61] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2110 Embryonic Shifting Dunes, page 19

[62] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 233-234

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	
	Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate with a stable trend mainly because of pressures associated with recreation and coastal defences, which may interfere with local sediment dynamics. This assessment is unchanged since the 2013 assessment. (NPWS, 2019a)[63]. ▪ **A36** (Agriculture activities not referred to above) was … recorded as a low-intensity or neutral pressure during the current recording period… **A09** (Intensive grazing or overgrazing by livestock) was…assessed as a low-importance pressure for the current reporting period… **L02** (Natural succession resulting in species composition change) was considered … as a low-importance… Climate change has not been added as an impact of medium or high importance but it is likely to affect the range of 2120 over the coming decades. (NPWS, 2019b)[64].
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	**Bad**	**A10** Extensive grazing or undergrazing by livestock (H)	**A10** Extensive grazing or undergrazing by livestock (H)	▪ The Overall Status is assessed as Bad, as in the 2013 report, due to pressures associated with recreation and ecologically unsuitable grazing practices. The trend is

[63] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2120 Marram Dunes (White Dunes), page 19

[64] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 249-250

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			I02 Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**I02** Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	deteriorating due to poor results for structure and functions, but this is largely attributed to use of a different methodology and decline is considered to have been on-going since before the last assessment. (NPWS, 2019a)[65]. ▪ There were four pressures listed as medium importance in NPWS (2013) that were considered to be of low importance for the current reporting period. These were **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell), **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), **F09** Deposition and treatment of waste/garbage from household/ recreational facilities, and **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization). These four pressures were assessed as low importance during the current reporting period, because they were noted less frequently…Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 2130 over the coming decades. (NPWS, 2019b)[66].
	Humid dune slacks [2190]	**Inadequate**	**A19** Application of natural fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **F07** Sports, tourism and leisure activities (M) **I02** Other invasive alien species (other than species of Union concern) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**A19** Application of natural fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **F07** Sports, tourism and leisure activities (M) **I02** Other invasive alien species (other than species of Union concern) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ Pressures on the habitat come from a number of sources, including agricultural fertilisers, sports and leisure activities (e.g. walking, off-road driving and golf courses) and drainage. Succession to scrub is also a problem, particularly where it is linked to desiccation of the slack. The Overall Status of the habitat is assessed as Inadequate and deteriorating, unchanged since the 2013 assessment. (NPWS, 2019a)[67]. ▪ Low-importance impacts recorded during the current reporting period included **F09**

[65] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2130 Fixed Dunes (Grey Dunes) *, page 20

[66] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 267-268

[67] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2190 Dune Slacks, page 22

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Deposition and treatment of waste/garbage from household/recreational facilities (in the form of litter) and **K05** Physical alteration of water bodies, in the form of artificial ponds that have been constructed for the Annex IV species Natterjack toad (*Epidalea calamita*). Climate change has not been added as an impact of medium- or high-importance but it is likely to affect the range of 2190 over the coming decades.. (NPWS, 2019b)[68].
	Petalophyllum ralfsii (Petalwort) [1395]	**Favourable**	No pressures	No threats	▪ There are also no negative pressures currently impacting seriously on the habitat at a national level. (NPWS, 2019a)[69]. ▪ No pressures were identified as being of high or medium importance nationally. Any high or medium-impact pressures recorded during surveys usually affected only small areas of the habitat for the species, or occurred at a low frequency across the localities surveyed…Pressures that affected relatively large areas of the localities where they occurred, but which occurred at a low frequency across the localities surveyed, include **A09** Intensive grazing or overgrazing by livestock and **A10** Extensive grazing or undergrazing by livestock. In most cases where intensive and non-intensive grazing (mainly by sheep, cattle and rabbits) was recorded, it was regarded as either beneficial or not damaging to the habitat for the species…Sports, tourism and leisure activities (**F07**) such as walking, jogging, horseriding and non-motorised and motorised vehicle use was noted as an impact on the habitat for the species at many *P. ralfsii* localities, but this is beneficial, as trampling compresses the ground and keeps vegetation low, maintaining suitable conditions for *P. ralfsii* and also can create new niches for *P. ralfsii* by creating bare areas of substrate for subsequent colonisation…Coastal erosion

[68] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 329-330

[69] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species:1395 Petalwort (Petalophyllum ralfsii), page 46

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					(**L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) was recorded as a negative pressure at a couple of localities but only affected small areas of the overall habitat for the species and was not listed as a pressure nationally. Other pressures that were high-impact but which affected only a small area of the habitat at a local level include **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices). Climate change has not been added as an impact, but it is likely to affect the distribution of *P. ralfsii* in Ireland in decades to come if average temperatures continue to rise. (NPWS, 2019c)[70].
North Bull Island SPA 004006	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Shelduck (*Tadorna tadorna*) [A048]				
	Teal (*Anas crecca*) [A052]				
	Pintail (*Anas acuta*) [A054]				
	Shoveler (*Anas clypeata*) [A056]				
	Oystercatcher (*Haematopus ostralegus*) [A130]				
	Golden Plover (*Pluvialis apricaria*) [A140]				
	Grey Plover (*Pluvialis squatarola*) [A141]				
	Knot (*Calidris canutus*) [A143]				
	Sanderling (*Calidris alba*) [A144]				
	Dunlin (*Calidris alpina*) [A149]				
	Black-tailed Godwit (*Limosa limosa*) [A156]				
	Bar-tailed Godwit (*Limosa lapponica*) [A157]				
	Curlew (*Numenius arquata*) [A160]				
	Redshank (*Tringa totanus*) [A162]				
	Turnstone (*Arenaria interpres*) [A169]				

[70] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 89

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]				
	Wetland and Waterbirds [A999]				
Howth Head SAC 000202	NPWS (2016) *Howth Head SAC (site code: 000202) Conservation objectives supporting document - Coastal habitats.* Version 1 *Hottentot fig (Carpobrotus edulis) is a popular garden plant from South Africa and an aggressive invader of coastal habitats that poses a serious ecological threat.* *Coastal protection works can disrupt the natural integrity of a sea cliff. The health and on-going development of vegetated sea cliffs relies on natural processes, such as erosion, continuing without any impingement. This is generally a bigger issue for soft cliffs which require a degree of slumping and erosion to expose bare soil for pioneer species to colonise; otherwise the vegetation is replaced by hardy grasses, and scrub of little conservation value can develop. In addition, cliff erosion provides an important sediment source to sites further along the coast (e.g. sand dunes). Preventing erosion at a cliff site can lead to beach starvation at another site.*				
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	**Inadequate**	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	▪ A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. (NPWS, 2019a)[71]. ▪ **M05** (Collapse of terrain, landslide), which was listed as a medium-importance pressure in NPWS (2013), has now been listed as a neutral pressure.. (NPWS, 2019b)[72].
	European dry heaths [4030]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M)	▪ A number of significant pressures were recorded for this habitat in the current reporting period, particularly overgrazing by sheep and burning for agriculture. Both cause habitat degradation and loss through erosion. Afforestation and wind farms are also recognised as problems for Dry heath. (NPWS, 2019a)[73].

[71] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1230 Vegetated sea cliffs, page 16

[72] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 147

[73] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4030 Dry Heath, page 27

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), **A36** (Agriculture activities not referred to above) (i.e. agricultural intensification), **C01** (Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell)), **E01** (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), **F01** (Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)), **H06** (Closure or restrictive access to site/habitat) (i.e. fencing**), J03** (Mixed source air pollution, air-borne pollutants) and **L06** (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)), recorded in NPWS (2013a) but not in this reporting period, were retained as low importance pressures for the current reporting period. **F07** (Sports, tourism and leisure activities), **I02** (Other invasive alien species (other than species of Union concern)), **I04** (Problematic native species), **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), **L02** (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), and **M05** (Collapse of terrain, landslide), were recorded in both the previous and current reporting periods. They have also been retained as low-importance pressures. Climate change (under two separate codes, **N01** and **N02**) is assessed as a low-importance pressure, but is considered to be a medium importance threat to 4030. (NPWS, 2019b)[74].
Howth Head SPA 004113	Kittiwake (*Rissa tridactyla*) [A188]				
Ireland's Eye SAC	NPWS (2017) *Ireland's Eye SAC (site code: 002193) Conservation objectives supporting document - Coastal habitats.* Version 1				

[74] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 567

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
002193	Nothing re threats/pressures/urban/disturbance				
	Perennial vegetation of stony banks [1220]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with coastal defences (which can interfere with sediment dynamics), recreation and shingle removal. (NPWS, 2019a)[75]. ▪ **F07** was the most commonly recorded pressure noted 25 times (seven as a neutral impact) under the impacts 'storage of boats and fishing equipment', 'horse riding, walking', 'trampling', 'off-road driving' and 'camping'… Lowimportance impacts recorded during the current reporting period included **A36** Agriculture activities not referred to above in the form of fences, **C06** Dumping/depositing of inert materials from terrestrial extraction, **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) in the form of a carpark, and **I04** Problematic native species. Impacts of low importance recorded during the previous reporting period (NPWS, 2013) which were not recorded during the current reporting period included **D07** Oil and gas pipelines (recorded under the impact 'pipelines') and **F10** Deposition and treatment of waste/garbage from commercial and industrial facilities (recorded under the impact 'disposal of inert material). It should be noted that it was not possible to crosswalk the NPWS (2013) recorded impact **H07** Other forms of pollution to the new 2017 pressure codes as there was no matching code. Climate change has not been added as an impact but it is likely to affect the range of 1220 over the coming decades. (NPWS, 2019b)[76].

[75] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats:1220 Vegetated Shingle, page 16

[76] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 130-131

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	**Inadequate**	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	▪ A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. (NPWS, 2019a)[77]. ▪ **M05** (Collapse of terrain, landslide), which was listed as a medium-importance pressure in NPWS (2013), has now been listed as a neutral pressure.. (NPWS, 2019b)[78].
Ireland's Eye SPA 004117	Cormorant (*Phalacrocorax carbo*) [A017]				
	Herring Gull (*Larus argentatus*) [A184]				
	Kittiwake (*Rissa tridactyla*) [A188]				
	Guillemot (*Uria aalge*) [A199]				
	Razorbill (*Alca torda*) [A200]				
Baldoyle Bay SAC 000199	NPWS (2012) Baldoyle Bay SAC (site code: 199) *Conservation objectives supporting document - Marine Habitats. Version 1* *1. Those communities that are key contributors to overall biodiversity at a site by virtue of their structure and/or function (keystone communities) and their low resilience should be afforded the highest degree of protection and any significant anthropogenic disturbance should be avoided* *2.1 Significant anthropogenic disturbance may occur with such intensity and/or frequency as to effectively represent a continuous or ongoing source of disturbance over time and space (e.g. effluent discharge within a given area).* *2.2 Some activities may cause significant disturbance but may not necessarily represent a continuous or ongoing source of disturbance over time and space. This may arise for intermittent or episodic activities for which the receiving environment would have some resilience and may be expected to recover within a reasonable timeframe relative to the six-year reporting cycle (as required under Article 17 of the Directive). This Department is satisfied that such activities could be assessed in a contextspecific manner giving due consideration to the proposed nature and scale of activities during the reporting cycle and the particular resilience of the receiving habitat in combination with other activities within the designated site.*				
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution	**F20** Residential or recreational activities and structures generating marine pollution	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry

[77] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1230 Vegetated sea cliffs, page 16

[78] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 147

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			(excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	(excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[79]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[80].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[81]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range

[79] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. 1140 Tidal Mudflats and Sandflats, page 13

[80] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[81] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					of 1310 over the coming decades. (NPWS, 2019b)[82].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[83]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[84].
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[85]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect

[82] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

[83] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[84] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

[85] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean Salt Meadows, page 18

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					the range of 1410 over the coming decades. (NPWS, 2019b)[86].
Baldoyle Bay SPA 004016	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Shelduck (*Tadorna tadorna*) [A048]				
	Ringed Plover (*Charadrius hiaticula*) [A137]				
	Golden Plover (*Pluvialis apricaria*) [A140]				
	Grey Plover (*Pluvialis squatarola*) [A141]				
	Bar-tailed Godwit (*Limosa lapponica*) [A157]				
	Wetland and Waterbirds [A999]				
Malahide Estuary SAC 000205	NPWS Malahide Estuary SAC (site code: 205) Conservation objectives supporting document - Marine habitats Version 1 May 2013 Same as previous text for marine habitat CO support docs. NPWS Malahide Estuary SAC (site code 205) Conservation objectives supporting document -coastal habitats NPWS Version 1 May 2013 *The main threats affecting this site are recreational activities, water pollution and infilling. Owing to the proximity of two large towns, the area is very popular for water sports and other amenities. Parts of the estuary have been infilled in the past for various developments and this remains a threat.* *Fixed Dune (H2130) The main area of fixed dune has been modified by the presence of the two golf courses and activities associated with these. The extent of the fixed dunes outside of the golf courses is rated as unfavourable-inadequate under the EU conservation status system (Table 7C). The boundary between the golf course and the fixed dune was not clear in places on the ground during this survey. The extent of the fixed dune is threatened by invasive species and natural erosion compounded by human activities (recreational activities including activities associated with the golf course).*				
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[87]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and

[86] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[87] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[88].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[89]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[90].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since

[88] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[89] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[90] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F08 Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	2013 due to losses in area (NPWS, 2019a)[91]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[92].
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[93]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[94].
	Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H)	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H)	▪ The Overall Status is assessed as Inadequate with a stable trend mainly because of pressures associated with recreation and coastal defences, which may interfere with local sediment dynamics. This assessment is unchanged since the 2013 assessment. (NPWS, 2019a)[95]. ▪ **A36** (Agriculture activities not referred to above) was … recorded as a low-intensity or neutral pressure during the current recording period… **A09** (Intensive grazing or

[91] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[92] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

[93] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean Salt Meadows, page 18

[94] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[95] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2120 Marram Dunes (White Dunes), page 19

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	overgrazing by livestock) was…assessed as a low-importance pressure for the current reporting period… **L02** (Natural succession resulting in species composition change) was considered … as a low-importance… Climate change has not been added as an impact of medium or high importance but it is likely to affect the range of 2120 over the coming decades. (NPWS, 2019b)[96].
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	**Bad**	**A10** Extensive grazing or undergrazing by livestock (H) **I02** Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**A10** Extensive grazing or undergrazing by livestock (H) **I02** Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ The Overall Status is assessed as Bad, as in the 2013 report, due to pressures associated with recreation and ecologically unsuitable grazing practices. The trend is deteriorating due to poor results for structure and functions, but this is largely attributed to use of a different methodology and decline is considered to have been on-going since before the last assessment. (NPWS, 2019a)[97]. ▪ There were four pressures listed as medium importance in NPWS (2013) that were considered to be of low importance for the current reporting period. These were **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell), **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), **F09** Deposition and treatment of waste/garbage from household/ recreational facilities, and **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization). These four pressures were assessed as low

[96] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 249-250

[97] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2130 Fixed Dunes (Grey Dunes) *, page 20

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					importance during the current reporting period, because they were noted less frequently…Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 2130 over the coming decades. (NPWS, 2019b)[98].
Malahide Estuary SPA 004025	Great Crested Grebe (*Podiceps cristatus*) [A005]				
	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Shelduck (*Tadorna tadorna*) [A048]				
	Pintail (*Anas acuta*) [A054]				
	Goldeneye (*Bucephala clangula*) [A067]				
	Red-breasted Merganser (*Mergus serrator*) [A069]				
	Oystercatcher (*Haematopus ostralegus*) [A130]				
	Golden Plover (*Pluvialis apricaria*) [A140]				
	Grey Plover (*Pluvialis squatarola*) [A141]				
	Knot (*Calidris canutus*) [A143]				
	Dunlin (*Calidris alpina*) [A149]				
	Black-tailed Godwit (*Limosa limosa*) [A156]				
	Bar-tailed Godwit (*Limosa lapponica*) [A157]				
	Redshank (*Tringa totanus*) [A162]				
	Wetland and Waterbirds [A999]				

[98] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 267-268

Appendix G
Cork

Cork

Cork has one SAC and one SPA within 15km of the city's centre. **Figure F-1** shows all European sites within 15km of the city's centre and **Table F-1** lists the QIs for each site and their threats and pressures as identified within the Article 17 (NPWS, 2019a,b,c) reporting.

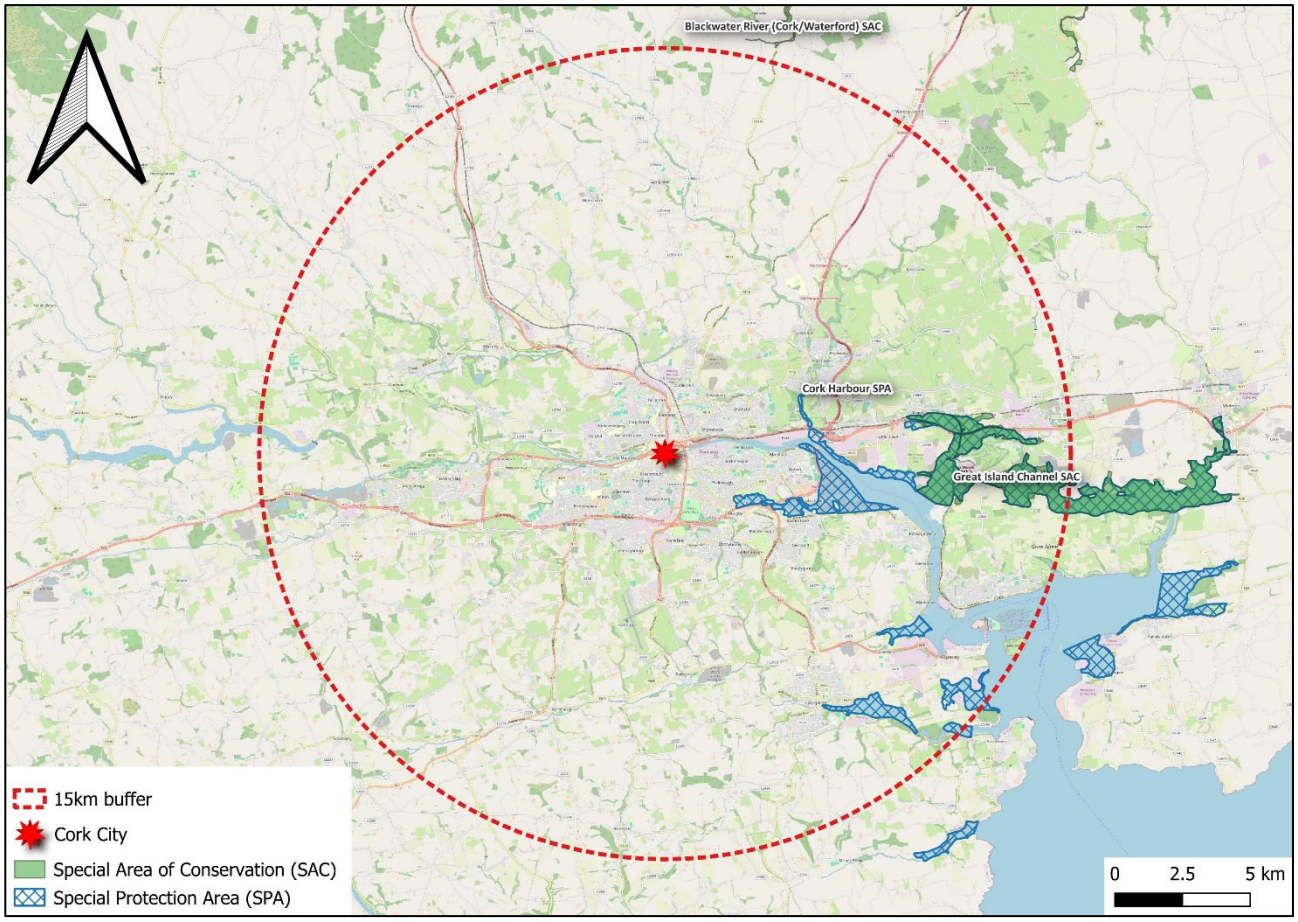

Figure G-1: European sites within 15km of Cork city.

Table G-1: Threats and pressures of QIs of European sites with likely connectivity to Cork City.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
Great Island Channel SAC [001058]	NPWS (2014) Great Island Channel SAC (001058) *Conservation objectives supporting document – Coastal habitats. Version 1* ▪ *1.0 Introduction: The Great Island Channel forms the eastern stretch of the river basin and compared to the rest of Cork Harbour, is relatively undisturbed. While the main land use within the site is aquaculture (Oyster farming), the greatest threats to its conservation significance comes from road works, infilling, sewage outflows and possible marina developments.* ▪ Appendix II Bawnnard site report and habitat map from the SMP (McCorry & Ryle, 2009): - 4.0 Impacts and Activities. *The main Impacts and activities adjacent to the site (Atlantic salt meadows at Bawnard) are related to agriculture. Improved grassland adjacent to the site is grazed and some is also fertilised and cut for cattle fodder. Other impacts and activities include dispersed habitation and roads. Part of the shoreline is used by a waste disposal company and there is some run-off from this site into the bay (424). There is also a discharge pipe in the centre of the bay. The impact of these discharges is likely to be limited. There is also some recent housing development around the site (402).* - *5.0 Conservation Status. Bawnard saltmarsh is a relatively small site with few features of conservation interest….The overall conservation status of this site is assessed as unfavourable- inadequate. The saltmarsh is relatively poorly developed and the main sections have been modified in the past by the construction of a seawall along the shoreline.The most significant impact was poaching in some of the saltmarsh located behind the seawall. There has been some infilling around the site but this does not affect any saltmarsh habitat. The site may be vulnerable to infilling in the future. Most of the habitat is located within the cSAC boundary so the habitat should not be affected by any land-use changes that have to be licensed by local or national authorities.*				
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[1]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats

[1] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and litter associated with this industry was frequently noted. (NPWS, 2019b)[2].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[3]. ▪ The main Impacts and activities adjacent to the site are related to agriculture. Improved grassland adjacent to the site is grazed and some is also fertilised and cut for cattle fodder. Other impacts and activities include dispersed habitation and roads. Part of the shoreline is used by a waste disposal company and there is some run-off from this site into the bay (424). There is also a discharge pipe in the centre of the bay. The impact of these discharges is likely to be limited. There is also some recent housing development around the site (402). (NPWS, 2014)[4].
Cork Harbour SPA [004030]	Little Grebe (Tachybaptus ruficollis) [A004]				
	Great Crested Grebe (Podiceps cristatus) [A005]				
	Cormorant (Phalacrocorax carbo) [A017]				
	Grey Heron (Ardea cinerea) [A028]				
	Shelduck (Tadorna tadorna) [A048]				
	Wigeon (Anas penelope) [A050]				
	Teal (Anas crecca) [A052]				

[2] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[3] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Pintail (Anas acuta) [A054]				
	Shoveler (Anas clypeata) [A056]				
	Red-breasted Merganser (Mergus serrator) [A069]				
	Oystercatcher (Haematopus ostralegus) [A130]				
	Golden Plover (Pluvialis apricaria) [A140]				
	Grey Plover (Pluvialis squatarola) [A141]				
	Lapwing (Vanellus vanellus) [A142]				
	Dunlin (Calidris alpina) [A149]				
	Black-tailed Godwit (Limosa limosa) [A156]				
	Bar-tailed Godwit (Limosa lapponica) [A157]				
	Curlew (Numenius arquata) [A160]				
	Redshank (Tringa totanus) [A162]				
	Black-headed Gull (Chroicocephalus ridibundus) [A179]				
	Common Gull (Larus canus) [A182]				
	Lesser Black-backed Gull (Larus fuscus) [A183]				
	Common Tern (Sterna hirundo) [A193]				
	Wetland and Waterbirds [A999]				

Appendix H
Waterford

Waterford

Waterford has three SACs and three SPAs within 15km of the city's centre. **Figure G-1** shows all European sites within 15km of the city's centre and **Table G-1** lists the QIs for each site and their threats and pressures as identified within the Article 17 (NPWS, 2019a,b,c) reporting.

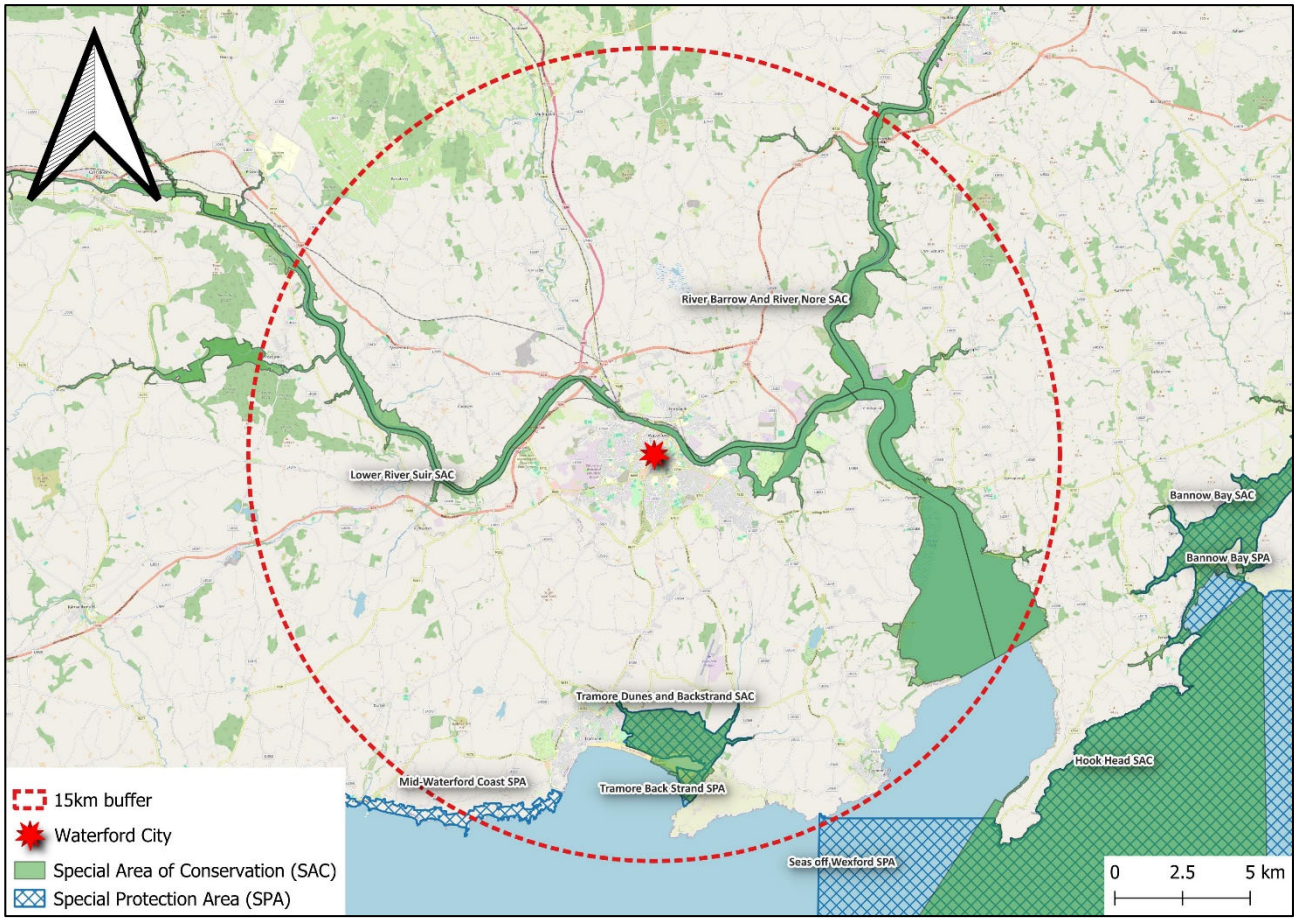

Figure H-1: European sites within 15km of Waterford City.

Table H-1: Threats and pressures of QIs of European sites with likely connectivity to Waterford City.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
River Barrow and River Nore SAC [002162] .	NPWS (2024) River Barrow and River Nore SAC (site code 2162) *Site synopsis* ▪ *The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (Prunus laurocerasus) and Rhododendron (Rhododendron ponticum). The water quality of the site remains vulnerable.* NPWS (2011) River Barrow and River Nore SAC (site code 2162) *Conservation objectives supporting document-woodland habitats Version 1* ▪ *Page 5 Threats from agriculture may be direct or indirect. The principal direct threat is clearance and uprooting resulting in destruction of the woodland, although alluvial woodlands subject to frequent flooding are probably not attractive for agricultural reclamation. Indirect threats include fertiliser drift, which may increase the trophic status of the wood leading to the stronger growth of nitrophilous species and loss of less vigorous species, and herbicide drift, which may kill vegetation on the woodland edge.* ▪ *Page 5 Urban development is a threat of the River Barrow and River Nore SAC Alluvial woodlands principally around towns. Alluvial woodland is more likely to be damaged by infilling, although new planning legislation will hopefully make this less of a threat. Infrastructural development is likely to be localised and restricted in its impact.* ▪ *Page 8 Urban development is a threat to Sessile oak woodlands principally around towns although at least in the lower reaches the topography is a major impediment to development, most of the woodland being on steep slopes. Infrastructural development is likely to be localised and restricted in its impact.* NPWS (2011) River Barrow and River Nore SAC (site code 2162) *Conservation objectives supporting document-coastal habitats Version 1* ▪ *Page 17 The main impacts and activities adjacent to the site are cultivation (100), fertilization (120) and the grazing of livestock (140) related to farming practises. Other impacts and activities include dispersed habitation (403), the Waterford-Wexford railway (503), forestry (160) and amenity use of Dunbrody Abbey (620). Wexford County Council have advertised for tenders to repair parts of the stone embankment at Kilmannock in the past few years.*				
	Estuaries [1130]	**Inadequate**	20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H) XU Unknown pressure (M)	20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H)	▪ Most of the pressures on estuaries come from various sources of pollution, including domestic wastewater, agriculture and marine aquaculture. The overall status is the same as the 2013 assessment; however the trend has changed, due to more accurate data, from improving to declining (NPWS, 2019a)[1]. ▪ Increased sedimentation as a result of surface waters via storm overflows or urban run-off in estuaries surrounded by or downstream of large urban settlements and maintenance dredging, e.g. Dundalk Bay SAC and Lower River Shannon, is considered to be a significant factor in the changes observed to sediment composition and typical species changes. Certain activities such as the picking of shellfish on the shore and certain sport

[1] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1130 Estuaries, page 12

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and leisure activities are currently considered as a low pressure and threat. Bottom culture of Pacific oyster *Magallana gigas* (syn. Crassostrea gigas) in Lough Swilly SAC where this invasive species is known to be naturalised is considered a significant pressure. In some cases the pressures acting on an area were unknown. This was particularly the case where changes in benthic sediment communities occurred but no obvious source of the impact could be identified. Changes like increased sedimentation may increase with climate change (NPWS, 2019b)[2]
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (*Magallana gigas*). (NPWS, 2019a)[3]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with

[2] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 23-24

[3] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					this industry was frequently noted. (NPWS, 2019b)[4].
	Reefs [1170]	**Inadequate**	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	▪ The main pressures on reefs come from fishing methods that damage the seafloor. As a result the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys. (NPWS, 2019a)[5]. ▪ The invasive alien species *Sargassum muticum* has been noted as an increased pressure on intertidal reef areas where it has become established in rock pools within this habitat. The collection of marine algae, particularly *Ascophyllum nodosum*, on a commercial scale has been carried out on intertidal reefs within Irish SACs for many years and continues to have a medium impact on this habitat. The mechanical harvesting of subtidal kelp beds is now identified as a potential future threat. The use of nets for the capture of commercial species has been identified as a significant threat to subtidal reef habitat (Scally et al., in prep.). The use of towed and static gear on reef habitats for the capture of fish and crustaceans is common throughout the majority of reef habitat. Offshore reef is particularly vulnerable to bottom towed gear which will result in what must be considered as permanent loss to the keystone communities there, given the extremely slow-growing nature of these ecosystems (NPWS, 2019b)[6].

[4] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[5] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1170 Reefs, page 14

[6] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 87

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[7]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[8].
	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[9]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[10].

[7] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[8] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

[9] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[10] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Mediterranean salt meadows (Juncetalia maritimi) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[11]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[12].
	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M)	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[13]. ▪ Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water

[11] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean Salt Meadows, page 18

[12] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[13] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of flowing waters, page 26

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			K01 Abstraction from groundwater, surface water or mixed water (M)	K01 Abstraction from groundwater, surface water or mixed water (M)	bodies were hydromorphology at 329 (28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a result, K01 has also been listed as a pressure (NPWS, 2019b)[14].
	European dry heaths [4030]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ A number of significant pressures were recorded for this habitat in the current reporting period, particularly overgrazing by sheep and burning for agriculture. Both cause habitat degradation and loss through erosion. Afforestation and wind farms are also recognised as problems for Dry heath. (NPWS, 2019a)[15]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), **A36** (Agriculture activities not referred to above) (i.e. agricultural intensification), **C01** (Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell)), **E01** (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), **F01** (Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal

[14] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[15] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4030 Dry Heath, page 27

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					conditions)), **H06** (Closure or restrictive access to site/habitat) (i.e. fencing**), J03** (Mixed source air pollution, air-borne pollutants) and **L06** (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)), recorded in NPWS (2013a) but not in this reporting period, were retained as low importance pressures for the current reporting period. **F07** (Sports, tourism and leisure activities), **I02** (Other invasive alien species (other than species of Union concern)), **I04** (Problematic native species), **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), **L02** (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), and **M05** (Collapse of terrain, landslide), were recorded in both the previous and current reporting periods. They have also been retained as low-importance pressures. Climate change (under two separate codes, **N01** and **N02**) is assessed as a low-importance pressure, but is considered to be a medium importance threat to 4030. (NPWS, 2019b)[16].
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	**Bad**	A09 (Intensive grazing or overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	A09 (Intensive grazing or overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	▪ Pressures on the habitat include invasive species; and agricultural intensification and drainage in the lowlands. The Overall Status is assessed as Bad with a deteriorating trend. This change in trend since the 2013 report represents a genuine decline due to range contraction and a decline in structure and functions (NPWS, 2019a)[17]. ▪ The low-importance impacts A02 (Conversion from one type of agricultural land use to another (excluding drainage and burning)), A26 (Agricultural activities

[16] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 567

[17] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6430 Hydrophilous Tall-Herb Swamp, page 31

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					generating diffuse pollution to surface or ground waters) and J03 (Mixed source air pollution, air-borne pollutants), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. A11 (Burning for agriculture) and L02 (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), recorded within the current reporting period only, were also assessed as low importance for 6430 habitat due to low frequency and area impacted upon. It should be noted however that the medium-importance pressure A31 (Drainage for use as agricultural land) is likely to cause an increased frequency in the pressure L02 so this may be ranked as a higher importance pressure in future reporting periods (NPWS, 2019b)[18].
	Petrifying springs with tufa formation (Cratoneurion) [7220]	**Inadequate**	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (H) **F07** Sports, tourism and leisure activities (M) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) K02 Drainage (H) **K04** Modification of hydrological flow (H)	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **H08** Other human intrusions and disturbance not mentioned above (H) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) **K02** Drainage (H) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ The highest impact was deemed to be from 'Landfill, land reclamation and drying out, general (**J02.01**)'. This ties in with **E01**, **H08** and **K02** identified in the current assessment. Other important impacts included those relating to abandonment, water pollution, trampling/overuse/ intensive grazing. All of these have strong parallels in the current assessment (e.g. **J01**, **A06**, **H08**). Climate change has not been included as an impact but it is likely to affect this habitat in Ireland in decades to come (NPWS, 2019b)[19].

[18] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 707-708

[19] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7220 Petrifying springs, Section 7.3, page 886

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These pressures, in conjunction with the continued fragmentation of remaining stands, lead to an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[20]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal diseases, pathogens and pests (1 site) (NPWS, 2019b)[21].
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	**Bad**	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	▪ A number of pressures affect this habitat in Ireland, the most serious being invasive species particularly sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), Indian balsam (Impatiens

[20] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

[21] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				I05 Plant and animal diseases, pathogens and pests (M)	glandulifera) and currant species (Ribes nigrum and R. rubrum). Some native species such as brambles (Rubus fruticosus agg.) and common nettle can also become over-vigorous. Small area losses due to clear-fellling have also occurred. As a result the Overall Status is Bad and the trend is declining. This poorer trend since the previous assessment is mainly due to the availability of more accurate data, and the decline is considered to have been on-going since before the last assessment (NPWS, 2019a)[22]. ▪ J04 Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance pressure in NPWS (2013) under the code H05.01 Garbage and solid waste. During the current reporting period, it is a low-importance pressure…. A09 Intensive grazing or overgrazing by livestock was listed as a low-importance pressure in NPWS (2013) under the code B06 Grazing in forests/ woodland. During the current reporting period, it is a low-importance pressure…It should be noted that the impact category A09 as reported by Daly et al. (in prep.) is primarily overgrazing by deer (not livestock). Other pressures recorded from the 40 monitoring sites by Daly et al. (in prep.) comprise: E01 Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (three sites), L04 Natural processes of eutrophication or acidification (one site), F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (one site), B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs) (one site), B21 Use of physical

[22] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91E0 Alluvial Woodland, page 40

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					plant protection in forestry, excluding tree layer thinning (one site), B12 Thinning of tree layer (one site), B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (one site) and K01 Abstraction from groundwater, surface water or mixed water (one site) (NPWS, 2019b)[23].
	Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	**Inadequate**	L02 Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (H) L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) A07 Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) A10 Extensive grazing or undergrazing by livestock (M)	L02 Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (H) L01 Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) A07 Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) A10 Extensive grazing or undergrazing by livestock (M)	The first two pressures and threats are assigned a high category as these are the most significant drivers of loss of this species. The sites are mainly unmanaged because of their natural wetness, so grazing and mowing are less significant on a national scale and equally should be easily rectified in the short and medium term (NPWS, 2019c)[24].
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	**Inadequate**	A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M)	A31 Drainage for use as agricultural land ▪ (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M)	Changes in hydrological regime, particularly reduced base flow, but also increased scour at high flows, have been demonstrated to impact significantly on populations in Ireland, alone and in combination with pollution. Hydrological change in pearl mussel catchments is largely a result of land drainage (for agriculture (A31), forestry (B27) and peat extraction (C05)), but also results from abstraction for drinking water (F33) and, in at least one catchment (Clady), impoundment for electricity generation (D02)…. F31 – Other modification of hydrological conditions for residential or recreational development – was used to cover the construction of fishery weirs in freshwater pearl mussel habitat in the Owenriff, which led to morphological changes in the habitat and severe impacts on flow…..

[23] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1097-1098

[24] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 192

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	Pollution with fine sediment and nutrients continues to impact on the species…. Agriculture is a primary source, notably land reclamation and intensification (A01, A02, A04, A05, A13, A20, A31), increased stocking densities and housing of stock, leading to the generation of slurry (A19), and over-grazing (A09). Code A26 for diffuse pollution was used to cover all of these agricultural sources, although with drainage of peatland and wet soils, agricultural pollution can effectively be point source. Physical alteration of river banks, including bank reinforcement (A33) continues to be a significant pressure in pearl mussel rivers and is linked to intensification of agricultural use. A30, abstractions for agriculture, is also a concern, but it has not yet been demonstrated to be more than of low importance. As with other abstraction pressures, A30 may become a more significant threat, in combination with predicted droughts owing to climate change. Direct impacts have been recorded owing to livestock (cattle) in rivers, in at least six catchments, including three priority catchments. Pollution with human wastewater (F12) is also an on-going concern, particularly from on-site systems at tourist attractions… Operation and maintenance of bridges, roads and other transport infrastructure (E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) continues to be a pressure in pearl mussel catchments. New and upgraded transport infrastructure is still a threat (NPWS, 2019c)[25].
	Austropotamobius pallipes (White-clawed Crayfish) [1092]	**Bad**	I05 Plant and animal diseases, pathogens and pests (H)	I05 Plant and animal diseases, pathogens and pests (H)	▪ Crayfish plague poses the most significant threat to the species…

[25] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 231-323

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				I01 Invasive alien species of Union concern (H)	The threat from invasive non-indigenous crayfish species (NICS) remains high. At present there is no evidence that any NICS are present in Ireland. However, should they become established it would make control of the disease extremely difficult if not impossible… Whilst habitat is considered sufficient for the species, allowing it to occupy its expected range, there are some indications of impacts of watercourse management that need investigation. The unexplained die-offs such as that on Lough Owel in 2018 also need investigation (NPWS, 2019c)[26].
	Petromyzon marinus (Sea Lamprey) [1095]	**Bad**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	▪ The sea lamprey is listed in the most recent Irish Red Data Book as Near Threatened. Barriers to upstream migration (e.g. weirs) are considered the major impediment to good conservation status for sea lamprey as these limit access to spawning beds and juvenile habitat. (NPWS, 2019a)[27]. ▪ Enrichment and nutrient pollution due to agricultural (A19, A20) and other anthropogenic activities can result in profusions of macrophytes and filamentous algae, obscuring both juvenile and spawning habitats…It is acknowledged that more effort will need to be made in tackling diffuse pollution in Irish rivers… ▪ Increases in river discharge can exacerbate the already high rate of natural egg wash-out, both from within nests and from surrounding spawning gravels.. (NPWS, 2019c)[28]
	Lampetra planeri (Brook Lamprey) [1096]	**Favourable**	**A19** Application of natural fertilisers on agricultural land (M)	**A19** Application of natural fertilisers on agricultural land (M)	▪ For brook lamprey in Ireland there are extensive areas of suitable habitat and no significant pressures impacting this

[26] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 253-254

[27] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 Sea Lamprey, page 52

[28] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 289-290

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A20 Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater	**A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	species. The Overall Status is therefore assessed as Favourable (NPWS, 2019a)[29] ▪ Diffuse and point source pollution (**A19, A20,** F11, F12) may be having localised impacts on populations of *L. planeri*…Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on habitat availability for L. planeri in certain locations… All pressures and threats included here are ranked as having medium-level impacts on the long-term viability of *L. planeri* as impacts are generally localised (NPWS, 2019c)[30]
	Lampetra fluviatilis (River Lamprey) [1099]	**Unknown**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M	▪ The inability to distinguish between river lamprey and brook lamprey larvae, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken. The Overall Status for river lamprey is therefore assessed as Unknown (NPWS, 2019a)[31]. ▪ Barriers to migration, such as dams and weirs, can impede or prevent upstream passage to spawning and nursery habitat. As river lamprey migrate during winter months, when precipitation is expected to be higher, it is possible that they are able to surmount some of the larger weirs.. Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on spawning

[29] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1096 Brook Lamprey, page 53

[30] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 307-308

[31] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 River Lamprey, page 52

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and nursery habitat availability for river lamprey in certain locations. Increases in river discharge (N03) can exacerbate the already high rate of natural egg wash-out, both from within lamprey nests and from surrounding spawning gravels.. For spawning river lamprey in Irish catchments, the timing and scale of late-spring and summer flood events are of concern, particularly given the increased likelihood of such incidents in the future…(NPWS, 2019c)[32]
	Alosa fallax fallax (Twaite Shad) [1103]	**Bad**	A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (M) I02 Other invasive alien species (other than species of Union concern) (M) N03 Increases or changes in precipitation due to climate change (M)	A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (M) I02 Other invasive alien species (other than species of Union concern) (M) N03 Increases or changes in precipitation due to climate change (M)	▪ Pressures mainly relate to pollution, alteration of flow patterns, and habitat disturbance. Introduced species were also recorded, with a large population of the Asian clam (*Corbicula fluminea*) recorded within kilometres of the twaite shad spawning ground on the River Barrow. Furthermore, barriers to migration, such as weirs, can impede or prevent twaite shad accessing spawning habitat, and can also increase the potential for hybridisation between converging populations of twaite and Allis shad (NPWS, 2019a)[33]. ▪ Enrichment and nutrient pollution from various sources (A19 and A20) can result in profusions of macrophytes and filamentous algae, obscuring gravel substrates in spawning areas and potentially diminishing their value as egg development habitats. Some are at risk of not meeting surface water environmental objectives, with diffuse phosphorus loss to surface water identified as a major pressure. ▪ Twaite shad spawn at a time when water temperatures are on the rise. Higher water temperatures can lead to a growth in aquatic plants and extensive areas of

[32] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 324

[33] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: Twaite Shad, page 54

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					filamentous algae have been observed during survey work at twaite shad spawning grounds. ▪ Adult shad (both twaite and allis) are vulnerable to commercial fishing at sea and becoming recorded as bycatch (G12).. For spawning twaite shad in Irish catchments, the timing and scale of summer flood events are of concern, particularly given the increased likelihood of such incidents in the future. ▪ Estuarine habitats serve as important nurseries for juvenile twaite shad as well as locations for adult congregation during spawning migrations. Estuaries are, however, highly vulnerable to habitat disturbance and environmental pressures, both natural and man-made with the effects of pollution, dredging, shipping, channel and harbour maintenance (E03) posing immediate and long-term threats.. ▪ Adult shad (both twaite and allis) are vulnerable to commercial fishing at sea and becoming recorded as bycatch (G12) (NPWS, 2019c)[34]
	Salmo salar (Salmon) [1106]	**Favourable**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M)	▪ The survival of salmon during the marine phase of its lifecycle has been identified as the key determinant of trends in population size in natal rivers (NPWS, 2019a)[35]. ▪ The key pressures considered to pose threats / challenges to Atlantic salmon include: Water quality from (a) agricultural production, domestic waste-water treatment systems and forestry which are key sources of both rural diffuse and point-source pollution; and (b) urban

[34] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 357-358

[35] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1106 Atlantic salmon, page 55

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)	B23 Forestry activities generating pollution to surface or ground waters (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	waste-water pressures which are a source of point-source pollution. Hydromorphological threats relating to physical modification or damage to habitat and natural river/lake processes, and changes functions caused by channelisation, drainage, dams, weirs, barriers and locks, overgrazing, embankments and culverts. Temperature changes related to climate change may shift the phenologies of anadromous fishes. The consequences of such changes are unknown, but the change has the potential to disrupt established ecological relationships at various life history stages. Future warming may intensify the severity of floods and droughts, lessening the frequency of successful annual reproduction for anadromous fishes. Certain invasive alien species have the potential to negatively impact wild salmon habitat in the freshwater or estuarine environment in Ireland through both direct and indirect means, although documented knowledge is limited. Illegal catches, both at sea and within rivers remain a concern and an impediment to stock recovery Over-reporting of catches which can affect population estimates and negatively impact stock assessments and their sustainable management. Impacts of salmon aquaculture on native wild stocks from disease and escapes. (NPWS, 2019c)[36]
	Lutra lutra (Otter) [1355]	**Favourable**	Xxp No pressures	Xxt No threats	▪ The otter population (estimated at between 7,000 and 10,000 breeding females) is considered to be increasing and none of the threats or pressures identified is considered likely to impact

[36] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 394-395

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					significantly on the species (NPWS, 2019a)[37]. ▪ Roadkill was considered a Medium pressure in 2013 and while otters are still killed on Irish roads, this is not considered to pose a risk to conservation status nationally. ▪ Entanglement in fixed fishing nets (e.g. tangle nets) and pots (e.g. fyke nets / lobster pots) was also a concern although it is difficult to estimate the level of resulting mortality due to limited reporting Diffuse and point-source pollution of freshwaters and coastal waters is likely to impact otters indirectly through changes to prey abundance. These threats are considered to produce local impacts only. (NPWS, 2019c)[38]
	Trichomanes speciosum (Killarney Fern) [1421]	**Favourable, stable**	Xxp No pressures	Xxp No Threats	▪ The pressures identified are generally local issues and none were considered to be impacting on the long-term viability of the species or its habitat. The problem of invasive non-native species, identified at a number of sites, is difficult to manage as they often provide essential cover to Killarney fern colonies (NPWS, 2019a)[39]. ▪ Eleven impacting activities were recorded at 24 populations out of the 40 visited (as either pressures or threats): A10 Grazing; B20 Use of plant protection chemicals in forestry (herbicides); B12 Thinning of tree layer; H08 Other human intrusions and disturbance (illegal dumping); F07 Sports, tourism and leisure activities; I02 Other invasive alien species (other than species of Union concern); I04 Problematic native species; A11 Burning for agriculture; I05 Plant

[37] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1355 Otter, page 62

[38] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 575

[39] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6985 Killarney Fern, page 44

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and animal diseases, pathogens and pests (grey fungal attack); M05 Collapse of terrain/landslide; N03 Increases or changes in precipitation due to climate change. ▪ The main threats are loss of habitat, exposure (loss of cover) and encroachment of invasive/vigorous species, (such as Rhododendron ponticum, Prunus laurocerasus and Rubus fruticosus agg). Climate change has not been included as an impact but it is likely to affect the species and its habitat in Ireland in decades to come if average temperatures continue to rise (NPWS, 2019c)[40]
Lower River Suir SAC [002137]	NPWS (2017) Lower River Suir SAC [002137] *Conservation Objectives Supporting Document- Coastal Habitats Version 1* ▪ *3.4.1 The main activities adjacent to this SAC are urbanisation and use of the River Suir channel for navigation and access to Waterford Port.* ▪ Appendix II, 2.0. Little Island site report and habitat map from the Saltmarsh Monitoring Project (McCorry and Ryle, 2009) *The area around Little Island saltmarsh has been considerably modified in the past. This area is now quite built up and urban land extends east from Waterford City adjacent to the west part of the site. Construction of houses is continuing in this area and extending east into Grantstown. A sewage/water pipeline has been recently constructed along the river bank. The NHA survey noted that some of these salt marsh sites were under threat from disturbance from the adjacent housing development.*				
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[41]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330

[40] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 16-17

[41] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			I02 Other invasive alien species (other than species of Union concern) (M)	**I02** Other invasive alien species (other than species of Union concern) (M)	over the coming decades (NPWS, 2019b)[42].
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[43]. ▪ Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water bodies were hydromorphology at 329 (28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a result,

[42] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

[43] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of flowing waters, page 26

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					K01 has also been listed as a pressure (NPWS, 2019b)[44]. ▪
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	**Bad**	A09 (Intensive grazing or overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	A09 (Intensive grazing or overgrazing by livestock) (M) A31 (Drainage for use as agricultural land) (M) I01 (Invasive alien species of Union concern) (M) I02 (Other invasive alien species (other than species of Union concern)) (M)	▪ Pressures on the habitat include invasive species; and agricultural intensification and drainage in the lowlands. The Overall Status is assessed as Bad with a deteriorating trend. This change in trend since the 2013 report represents a genuine decline due to range contraction and a decline in structure and functions (NPWS, 2019a)[45]. ▪ The low-importance impacts A02 (Conversion from one type of agricultural land use to another (excluding drainage and burning)), A26 (Agricultural activities generating diffuse pollution to surface or ground waters) and J03 (Mixed source air pollution, air-borne pollutants), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. A11 (Burning for agriculture) and L02 (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), recorded within the current reporting period only, were also assessed as low importance for 6430 habitat due to low frequency and area impacted upon. It should be noted however that the medium-importance pressure A31 (Drainage for use as agricultural land) is likely to cause an increased frequency in the pressure L02 so this may be ranked as a higher importance pressure in future reporting periods (NPWS, 2019b)[46].

[44] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[45] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6430 Hydrophilous Tall-Herb Swamp, page 31

[46] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 707-708

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These pressures, in conjunction with the continued fragmentation of remaining stands, lead to an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[47]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal diseases, pathogens and pests (1 site) (NPWS, 2019b)[48].
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0]	**Bad**	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	▪ A number of pressures affect this habitat in Ireland, the most serious being invasive species particularly ▪ sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), Indian balsam

[47] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

[48] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				I05 Plant and animal diseases, pathogens and pests (M)	(Impatiens glandulifera) and currant species (Ribes nigrum and R. rubrum). Some native species such as brambles (Rubus fruticosus agg.) and common nettle can also become over-vigorous. Small area losses due to clear-fellling have also occurred. As a result the Overall Status is Bad and the trend is declining. This poorer trend since the previous assessment is mainly due to the availability of more accurate data, and the decline is considered to have been on-going since before the last assessment (NPWS, 2019a)[49]. ▪ J04 Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance pressure in NPWS (2013) under the code H05.01 Garbage and solid waste. During the current reporting period, it is a low-importance pressure…. A09 Intensive grazing or overgrazing by livestock was listed as a low-importance pressure in NPWS (2013) under the code B06 Grazing in forests/ woodland. During the current reporting period, it is a low-importance pressure…It should be noted that the impact category A09 as reported by Daly et al. (in prep.) is primarily overgrazing by deer (not livestock). Other pressures recorded from the 40 monitoring sites by Daly et al. (in prep.) comprise: E01 Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (three sites), L04 Natural processes of eutrophication or acidification (one site), F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (one site), B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs) (one site), B21 Use of physical

[49] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91E0 Alluvial Woodland, page 40

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					plant protection in forestry, excluding tree layer thinning (one site), B12 Thinning of tree layer (one site), B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (one site) and K01 Abstraction from groundwater, surface water or mixed water (one site) (NPWS, 2019b)[50].
	Taxus baccata woods of the British Isles [91J0]	**Bad**	I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H)	I02 Other invasive alien species (other than species of Union concern) (H) A09 Intensive grazing or overgrazing by livestock (H) I05 Plant and animal diseases, pathogens and pests (M)	▪ Pressures are mainly linked to the presence of alien species such as sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), cherry laurel (Prunus laurocerasus) and traveller's-joy (Clematis vitalba), with overgrazing by deer also posing a serious problem. The Overall Status of Yew woodland is therefore Bad. The change in trend from improving to stable since the previous assessment is due to improved knowledge and more accurate data, and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[51]. ▪ I02 was the most frequently recorded pressure present at all six sites…A09 was the second most frequently recorded pressure, recorded at two of the six sites.. I05 Plant and animal diseases, pathogens and pests was recorded as a low-importance pressure and a medium-importance threat. I05 refers to the presence of Ash Dieback disease at the monitoring sites (NPWS, 2019b)[52].
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	**Inadequate**	A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H)	A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H)	▪ Changes in hydrological regime, particularly reduced base flow, but also increased scour at high flows, have been demonstrated to impact significantly on populations in Ireland, alone and in combination with pollution. Hydrological

[50] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1097-1098

[51] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91J0 Yew Woodland, page 41

[52] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1116-1117

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	change in pearl mussel catchments is largely a result of land drainage (for agriculture (A31), forestry (B27) and peat extraction (C05)), but also results from abstraction for drinking water (F33) and, in at least one catchment (Clady), impoundment for electricity generation (D02)…. F31 – Other modification of hydrological conditions for residential or recreational development – was used to cover the construction of fishery weirs in freshwater pearl mussel habitat in the Owenriff, which led to morphological changes in the habitat and severe impacts on flow….. Pollution with fine sediment and nutrients continues to impact on the species…. Agriculture is a primary source, notably land reclamation and intensification (A01, A02, A04, A05, A13, A20, A31), increased stocking densities and housing of stock, leading to the generation of slurry (A19), and over-grazing (A09). Code A26 for diffuse pollution was used to cover all of these agricultural sources, although with drainage of peatland and wet soils, agricultural pollution can effectively be point source. Physical alteration of river banks, including bank reinforcement (A33) continues to be a significant pressure in pearl mussel rivers and is linked to intensification of agricultural use. A30, abstractions for agriculture, is also a concern, but it has not yet been demonstrated to be more than of low importance. As with other abstraction pressures, A30 may become a more significant threat, in combination with predicted droughts owing to climate change. Direct impacts have been recorded owing to livestock (cattle) in rivers, in at least six catchments, including three priority catchments. Pollution with human waste-water (F12) is also an on-going concern, particularly from on-site systems at tourist attractions…

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Operation and maintenance of bridges, roads and other transport infrastructure (E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) continues to be a pressure in pearl mussel catchments. New and upgraded transport infrastructure is still a threat…(NPWS, 2019c)[53].
	Austropotamobius pallipes (White-clawed Crayfish) [1092]	**Bad**	I05 Plant and animal diseases, pathogens and pests (H)	I05 Plant and animal diseases, pathogens and pests (H) I01 Invasive alien species of Union concern (H)	▪ Crayfish plague poses the most significant threat to the species… ▪ The threat from invasive non-indigenous crayfish species (NICS) remains high. At present there is no evidence that any NICS are present in Ireland. However, should they become established it would make control of the disease extremely difficult if not impossible… Whilst habitat is considered sufficient for the species, allowing it to occupy its expected range, there are some indications of impacts of watercourse management that need investigation. The unexplained die-offs such as that on Lough Owel in 2018 also need investigation (NPWS, 2019c)[54].
	Petromyzon marinus (Sea Lamprey) [1095]	**Bad**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M)	▪ The sea lamprey is listed in the most recent Irish Red Data Book as Near Threatened. Barriers to upstream migration (e.g. weirs) are considered the major impediment to good conservation status for sea lamprey as these limit access to spawning beds and juvenile habitat. (NPWS, 2019a)[55]. ▪ Enrichment and nutrient pollution due to agricultural (A19, A20) and other anthropogenic activities can result in profusions of macrophytes and filamentous algae, obscuring both juvenile and spawning habitats…It is acknowledged that more effort will need

[53] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, age 231-323

[54] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 253-254

[55] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 Sea Lamprey, page 52

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	to be made in tackling diffuse pollution in Irish rivers… ▪ Increases in river discharge can exacerbate the already high rate of natural egg wash-out, both from within nests and from surrounding spawning gravels.. (NPWS, 2019c)[56]
	Lampetra planeri (Brook Lamprey) [1096]	**Favourable**	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ For brook lamprey in Ireland there are extensive areas of suitable habitat and no significant pressures impacting this species. The Overall Status is therefore assessed as Favourable (NPWS, 2019a)[57] ▪ Diffuse and point source pollution (**A19, A20,** F11, F12) may be having localised impacts on populations of *L. planeri*…Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on habitat availability for L. planeri in certain locations… All pressures and threats included here are ranked as having medium-level impacts on the long-term viability of *L. planeri* as impacts are generally localised (NPWS, 2019c)[58]
	Lampetra fluviatilis (River Lamprey) [1099]	**Unknown**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M)	▪ The inability to distinguish between river lamprey and brook lamprey larvae, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken. The Overall Status for river lamprey is therefore assessed as Unknown (NPWS, 2019a)[59].

[56] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 289-290

[57]NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1096 Brook Lamprey, page 53

[58] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 307-308

[59] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1095 River Lamprey, page 52

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M)	E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M	▪ Barriers to migration, such as dams and weirs, can impede or prevent upstream passage to spawning and nursery habitat. As river lamprey migrate during winter months, when precipitation is expected to be higher, it is possible that they are able to surmount some of the larger weirs.. Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on spawning and nursery habitat availability for river lamprey in certain locations. Inrceases in river discharge (N03) can exacerbate the already high rate of natural egg wash-out, both from within lamprey nests and from surrounding spawning gravels.. For spawning river lamprey in Irish catchments, the timing and scale of late-spring and summer flood events are of concern, particularly given the increased likelihood of such incidents in the future…(NPWS, 2019c)[60]
	Alosa fallax fallax (Twaite Shad) [1103]	**Bad**	A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (M) I02 Other invasive alien species (other than species of Union concern) (M)	A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) G06 Freshwater fish and shellfish harvesting (recreational) (M) G12 Bycatch and incidental killing (due to fishing and hunting activities) (M) I02 Other invasive alien species (other than species of Union concern) (M)	▪ Pressures mainly relate to pollution, alteration of flow patterns, and habitat disturbance. Introduced species were also recorded, with a large population of the Asian clam (Corbicula fluminea) recorded within kilometres of the twaite shad spawning ground on the River Barrow. Furthermore, barriers to migration, such as weirs, can impede or prevent twaite shad accessing spawning habitat, and can also increase the potential for hybridisation between converging populations of twaite and Allis shad (NPWS, 2019a)[61]. ▪ Enrichment and nutrient pollution from various sources (A19 and A20) can result in profusions of macrophytes and filamentous algae, obscuring gravel substrates in spawning areas and

[60] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 324

[61] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 Twaite shad, page 54

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			N03 Increases or changes in precipitation due to climate change (M)	N03 Increases or changes in precipitation due to climate change (M)	potentially diminishing their value as egg development habitats. Some are at risk of not meeting surface water environmental objectives, with diffuse phosphorus loss to surface water identified as a major pressure. ▪ Twaite shad spawn at a time when water temperatures are on the rise. Higher water temperatures can lead to a growth in aquatic plants and extensive areas of filamentous algae have been observed during survey work at twaite shad spawning grounds. ▪ Adult shad (both twaite and allis) are vulnerable to commercial fishing at sea and becoming recorded as bycatch (G12).. For spawning twaite shad in Irish catchments, the timing and scale of summer flood events are of concern, particularly given the increased likelihood of such incidents in the future. ▪ Estuarine habitats serve as important nurseries for juvenile twaite shad as well as locations for adult congregation during spawning migrations. Estuaries are, however, highly vulnerable to habitat disturbance and environmental pressures, both natural and man-made with the effects of pollution, dredging, shipping, channel and harbour maintenance (E03) posing immediate and long-term threats.. ▪ Adult shad (both twaite and allis) are vulnerable to commercial fishing at sea and becoming recorded as bycatch (G12) (NPWS, 2019c)[62]
	Salmo salar (Salmon) [1106]	**Favourable**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H)	▪ The survival of salmon during the marine phase of its lifecycle has been identified as the key determinant of trends in

[62]NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 357-358

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			K05 Physical alteration of water bodies (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)	K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	population size in natal rivers (NPWS, 2019a)[63]. ▪ The key pressures considered to pose threats / challenges to Atlantic salmon include: Water quality from (a) agricultural production, domestic waste-water treatment systems and forestry which are key sources of both rural diffuse and point-source pollution; and (b) urban waste-water pressures which are a source of point-source pollution. Hydromorphological threats relating to physical modification or damage to habitat and natural river/lake processes, and changes functions caused by channelisation, drainage, dams, weirs, barriers and locks, overgrazing, embankments and culverts. Temperature changes related to climate change may shift the phenologies of anadromous fishes. The consequences of such changes are unknown, but the change has the potential to disrupt established ecological relationships at various life history stages. Future warming may intensify the severity of floods and droughts, lessening the frequency of successful annual reproduction for anadromous fishes. Certain invasive alien species have the potential to negatively impact wild salmon habitat in the freshwater or estuarine environment in Ireland through both direct and indirect means, although documented knowledge is limited. Illegal catches, both at sea and within rivers remain a concern and an impediment to stock recovery. Over-reporting of catches which can affect population estimates and negatively impact stock assessments and their sustainable management.

[63] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1106 Atlantic salmon, page 55

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Impacts of salmon aquaculture on native wild stocks from disease and escapes. (NPWS, 2019c)[64]
	Lutra lutra (Otter) [1355]	**Favourable**	Xxp No pressures	Xxt No threats	▪ The otter population (estimated at between 7,000 and 10,000 breeding females) is considered to be increasing and none of the threats or pressures identified is considered likely to impact significantly on the species (NPWS, 2019a)[65]. ▪ Roadkill was considered a Medium pressure in 2013 and while otters are still killed on Irish roads, this is not considered to pose a risk to conservation status nationally. ▪ Entanglement in fixed fishing nets (e.g. tangle nets) and pots (e.g. fyke nets / lobster pots) was also a concern although it is difficult to estimate the level of resulting mortality due to limited reporting ▪ Diffuse and point-source pollution of freshwaters and coastal waters is likely to impact otters indirectly through changes to prey abundance. These threats are considered to produce local impacts only. (NPWS, 2019c)[66]
Tramore Dunes and Backstrand SAC [4027]	NPWS (2013) Tramore Backstrand SPA [4027] *Conservation Objectives Supporting Document Version 1* ▪ *5.4.3. Overall, the main disturbance to saltmarsh habitats has been through reclamation activities…* ▪ *5.4.3 Water quality has been an issue at this site in the past and linked most often to inadequate waste water treatment; wastewater from Tramore being collected and pumped untreated into the bay via a short outfall pipe below low water level…* ▪ *5.4.3 Tramore Strand and dune system have been subject to wave and tidal erosion as part of coastal morphological changes across both short and long-term time scales. The dune system has suffered impacts due to human use (trampling, erosion) and this has contributed to the occurrence of blowouts as a result of wind erosion (Gault et al. 2006)..* ▪ *5.4.3 Any activity that causes disturbance can lead to the displacement of waterbirds..* Tramore Dunes and Backstrand SAC (site code 671) *Conservation objectives supporting document -coastal habitats. Version 1.* ▪ *1*.0 Introduction. Page 3: *The main threat to the stability of the dune habitats at Tramore is from recreational pressures, with heavy usage of the site due to its proximity to Tramore. Drift line and shingle vegetation is also under pressure from heavy usage of the beach area. The intertidal and saltmarsh habitats are not under significant threats, although seepage from the landfill site is a potential threat.*				

[64] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 394-395

[65] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1355 Otter, page 62

[66] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 575

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro-particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[67]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[68].
	Annual vegetation of drift lines [1210]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of	▪ The Overall Status is assessed as Inadequate due to pressures associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics, and the fact that the current area is still below the favourable reference area. The trend is deteriorating due to anthropogenic area losses. This assessment is unchanged since the 2013 report. (NPWS, 2019a)[69]. ▪ Pressures and threats noted less frequently and/or that impacted only small areas were deemed to be of low

[67] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

[68] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[69] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1210 Drift Lines, page 15

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **F07** Sports, tourism and leisure activities (M)	importance. Lowimportance pressures listed in NPWS (2013) include **C07** Dumping/depositing of dredged materials from marine extraction, **F09** Deposition and treatment of waste/garbage from household/recreational facilities (in the form of litter) and **H08** Other human intrusions and disturbance not mentioned above. Three low importance pressures recorded during the current reporting period were **I02** Other invasive alien species (other than species of Union concern), **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), and **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices).(NPWS, 2019b)[70].
	Perennial vegetation of stony banks [1220]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with coastal defences (which can interfere with sediment dynamics), recreation and shingle removal. (NPWS, 2019a)[71]. ▪ **F07** was the most commonly recorded pressure noted 25 times (seven as a neutral impact) under the impacts 'storage of boats and fishing equipment', 'horse riding, walking', 'trampling', 'off-road driving' and 'camping'… Lowimportance impacts recorded during the current reporting period included **A36** Agriculture activities not referred to above in the form of fences, **C06** Dumping/depositing of inert materials from terrestrial extraction, **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)

[70] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 113

[71] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1220 Vegetated Shingle, page 16

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					in the form of a carpark, and **I04** Problematic native species. Impacts of low importance recorded during the previous reporting period (NPWS, 2013) which were not recorded during the current reporting period included **D07** Oil and gas pipelines (recorded under the impact 'pipelines') and **F10** Deposition and treatment of waste/garbage from commercial and industrial facilities (recorded under the impact 'disposal of inert material). It should be noted that it was not possible to crosswalk the NPWS (2013) recorded impact **H07** Other forms of pollution to the new 2017 pressure codes as there was no matching code. Climate change has not been added as an impact but it is likely to affect the range of 1220 over the coming decades. (NPWS, 2019b)[72].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[73]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[74].

[72] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 130-131

[73] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[74] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. The Overall Status is assessed as Favourable with a stable trend. The change in assessment from Inadequate in the 2013 report is due partly to a change in the threshold for favourable structure and functions, and partly because of a lack of evidence for the recent spread of the invasive non-native species, common cordgrass (Spartina anglica), although the extent and potential spread of this species should be monitored closely. (NPWS, 2019a)[75]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[76].
	Mediterranean salt meadows (*Juncetalia maritimi)* [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[77]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an

[75] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[76] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

[77] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean salt meadows, page 18

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[78].
	Embryonic shifting dunes [2110]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E03** Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ **F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E03** Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ The Overall Status is assessed as Inadequate with a stable trend due to pressures associated with recreation and coastal defences, which can interfere with sediment dynamics. This assessment is unchanged since the 2013 assessment. (NPWS, 2019a)[79]. ▪ The only low-importance impact recorded in NPWS (2013) was **A09** Intensive grazing or overgrazing by livestock and this was retained as a low-importance pressure for the current reporting period. …Climate change was ranked as a high pressure and threat for 2110 in NPWS (2013); however, it has not been added as an impact in this reporting period but it is likely to affect the range of 2110 over the coming decades. (NPWS, 2019b)[80].
	Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]	**Inadequate**	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational	**F07** Sports, tourism and leisure activities (H) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational	▪ The Overall Status is assessed as Inadequate with a stable trend mainly because of pressures associated with recreation and coastal defences, which may interfere with local sediment dynamics. This assessment is

[78] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[79] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2110 Embryonic Shifting Dunes, page 19

[80] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 233-234

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (H) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **E03** (Shipping lanes, ferry lanes and anchorage infrastructure e.g. canalisation, dredging) (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) (M) **F06** Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (M) **I02** Other invasive alien species (other than species of Union concern) (M)	unchanged since the 2013 assessment. (NPWS, 2019a)[81]. ▪ **A36** (Agriculture activities not referred to above) was … recorded as a low-intensity or neutral pressure during the current recording period… **A09** (Intensive grazing or overgrazing by livestock) was…assessed as a low-importance pressure for the current reporting period… **L02** (Natural succession resulting in species composition change) was considered … as a low-importance… Climate change has not been added as an impact of medium or high importance but it is likely to affect the range of 2120 over the coming decades. (NPWS, 2019b)[82].
	Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	**Bad**	**A10** Extensive grazing or undergrazing by livestock (H) **I02** Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea	**A10** Extensive grazing or undergrazing by livestock (H) **I02** Problems related to invasive alien species other than those covered by EU Regulation 1143/2014 (H) **A02** Conversion from one type of agricultural land use to another (excluding drainage and burning) (M) **A09** Intensive grazing or overgrazing by livestock (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea	▪ The Overall Status is assessed as Bad, as in the 2013 report, due to pressures associated with recreation and ecologically unsuitable grazing practices. The trend is deteriorating due to poor results for structure and functions, but this is largely attributed to use of a different methodology and decline is considered to have been on-going since before the last assessment. (NPWS, 2019a)[83]. ▪ There were four pressures listed as medium importance in NPWS (2013) that were considered to be of low importance for the current reporting period. These were **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell),

[81] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2120 Marram dunes (White dunes), page 19

[82] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 249-250

[83] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 2130 Fixed Dunes (Grey Dunes)*, page 20

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	defence or coast protection works and infrastructures) (M) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	**F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), **F09** Deposition and treatment of waste/garbage from household/ recreational facilities, and **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization). These four pressures were assessed as low importance during the current reporting period, because they were noted less frequently…Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 2130 over the coming decades. (NPWS, 2019b)[84].
Mid-Waterford Coast SPA [004193]	Cormorant (*Phalacrocorax carbo*) [A017]				
	Peregrine (*Falco peregrinus*) [A103]				
	Herring Gull (*Larus argentatus)* [A184]				
	Chough (Pyrrhocorax pyrrhocorax) [A346]				
Tramore Back Strand SPA [0004027]	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Golden Plover (*Pluvialis apricaria*) [A140]				
	Grey Plover (*Pluvialis squatarola*) [A141]				
	Lapwing (*Vanellus vanellus*) [A142]				
	Dunlin (*Calidris alpina*) [A149]				
	Black-tailed Godwit (Limosa limosa) [A156]				

[84] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Summary assessments*. Section 7.3 Additional Information, page 267-268

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Bar-tailed Godwit (Limosa lapponica) [A157]				
	Curlew (Numenius arquata) [A160]				
	Wetland and Waterbirds [A999]				
Seas off Wexford SPA [004237]	Red-throated Diver (Gavia stellata) [A001]				
	Fulmar (Fulmarus glacialis) [A009]				
	Manx Shearwater (Puffinus puffinus) [A013]				
	Gannet (Morus bassanus) [A016]				
	Cormorant (Phalacrocorax carbo) [A017]				
	Shag (Phalacrocorax aristotelis) [A018]				
	Common Scoter (Melanitta nigra) [A065]				
	Mediterranean Gull (Larus melanocephalus) [A176]				
	Black-headed Gull (Chroicocephalus ridibundus) [A179]				
	Lesser Black-backed Gull (Larus fuscus) [A183]				
	Herring Gull (Larus argentatus) [A184]				
	Kittiwake (Rissa tridactyla) [A188]				
	Sandwich Tern (Sterna sandvicensis) [A191]				
	Roseate Tern (Sterna dougallii) [A192]				

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Common Tern (Sterna hirundo) [A193]				
	Arctic Tern (Sterna paradisaea) [A194]				
	Little Tern (Sterna albifrons) [A195]				
	Guillemot (Uria aalge) [A199]				
	Razorbill (Alca torda) [A200]				
	Puffin (Fratercula arctica) [A204]				

Appendix I
Limerick

Limerick

Limerick has three SACs and two SPAs within 15km of the city's centre. **Figure H-1** shows all European sites within 15km of the city's centre and **Table H-1 l**ists the QIs for each site and their threats and pressures as identified within the Article 17 (NPWS, 2019a,b,c) reporting.

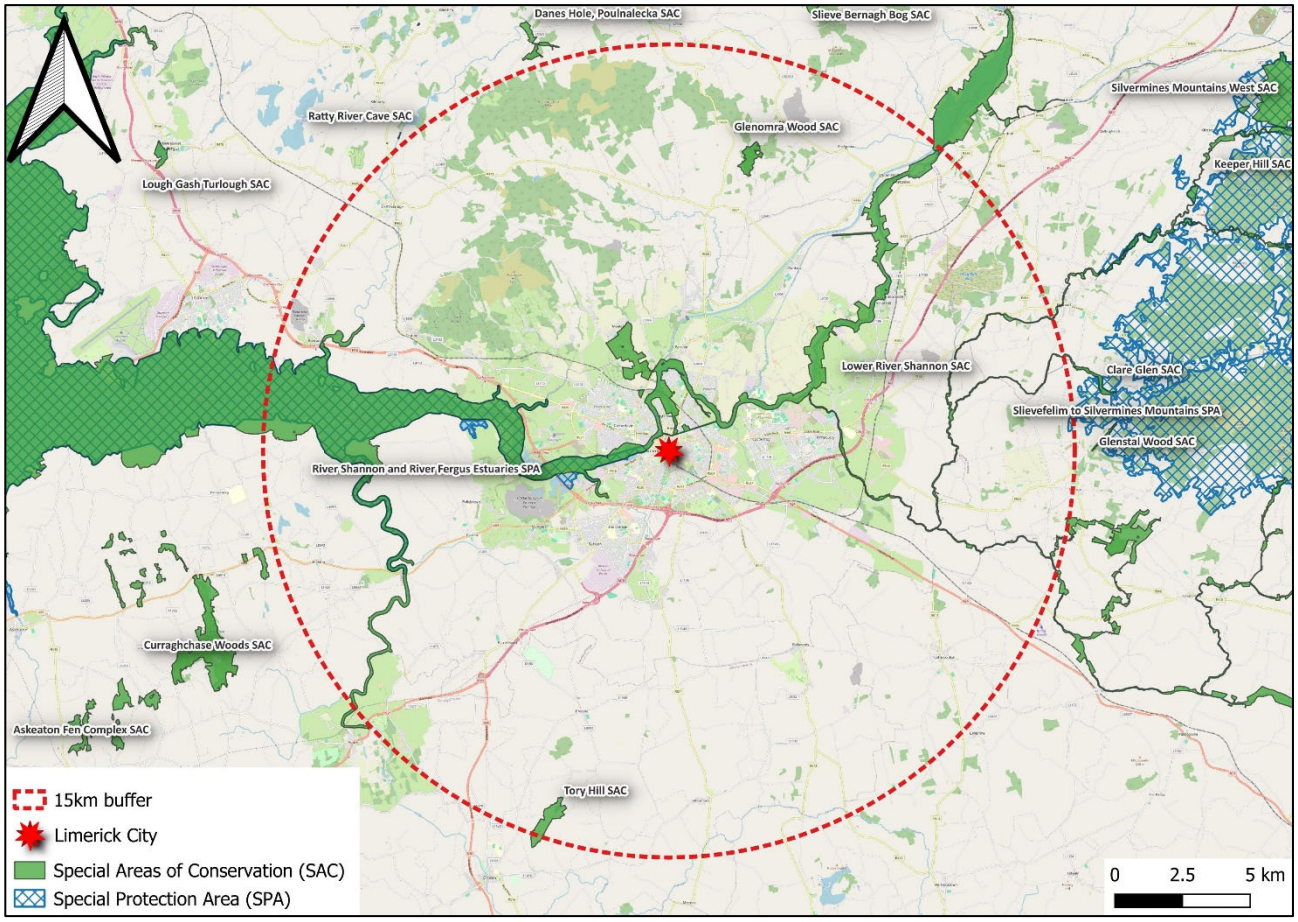

Figure I-1: European sites within 15km of Limerick City.

Table I-1: Threats and pressures of QIs of European sites with likely connectivity to Limerick City.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
Tory Hill SAC [0000439]	NPWS (2013) *Tory Hill SAC [0000439] Site Synopsis* ▪ This site is of considerable conservation significance for the diversity of terrestrial and wetland habitats found within it, and particularly for the presence of good examples of three habitats that are listed on Annex I of the E.U. Habitats Directive. ▪ Nothing re threats/pressures/urban/disturbance				
	Calcerous fens with *Cladium mariscus* and species of the *Caricion davallianae* (Cladium fens) [7210]	**Inadequate**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M) **C05** Peat extraction (M)	▪ 2013 is due to improved knowledge/more accurate data and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[1] ▪ The main pressures (and mostly regarded as threats also) facing Cladium fen in Ireland, based on the data available, are 1) human induced changes in hydraulic conditions such as current and historic drainage, and 2) changes in species composition as a result of natural succession due to lack of grazing. Non-intensive grazing was recorded as a positive impact. Pollution of ground and surface waters was not recorded during the limited survey work in the current reporting period. However, it is considered highly likely that such pollution is a moderate negative pressure on this habitat and that its omission is as a result of the small survey sample size. Climate change has not been added as an impact but it is likely to affect this habitat in Ireland in decades to come (e.g. warmer temperatures and changes to rainfall and flood events may increase drying out and vegetation succession). In 2013, water abstraction, reclamation and pollution were deemed to be the pressures with the highest impact, and also the biggest threats (NPWS, 2019b)[2]
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (*important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H)	▪ Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a

[1] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Cladium fens, page 36

[2] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 9867 - 868

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			C01 Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[3].
	Alkaline Fens [7320]	**Bad**	**A06** Abandonment of grassland management (H) **A09** intensive grazing or grazing by livestock **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities Generating diffuse pollution to surface or ground waters (M)	**A06** Abandonment of grassland management (H) **A09** intensive grazing or grazing by livestock **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities Generating diffuse pollution to surface or ground waters (M)	▪ The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution. The Overall Status is assessed as Bad with a deteriorating trend due to losses of area and habitat quality, as well as the pressures and threats faced by the habitat (NPWS, 2019a)[4] ▪ Climate change is likely to affect this habitat due to warmer temperatures and changes to rainfall and flood events, which may increase drying out and vegetation succession. In 2013, many similar threats were identified (NPWS, 2019b)[5]
Glenomra Wood SAC [001013]	*Glenomra Wood SAC [001013] Site Synopsis* The site is grazed by cattle, especially the northern sector. Parts of the wood clearfelled in recent years are showing fairly rapid natural regeneration. Glenomra Wood is a good example of a deciduous semi-natural woodland and is of considerable conservation significance				
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These pressures, in conjunction with the continued fragmentation of remaining stands, lead to

[3] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 29

[4] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Alkaline fens, page 35

[5] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 908

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[6]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal diseases, pathogens and pests (1 site) (NPWS, 2019b)[7].
Lower River Shannon SAC [2165]	NPWS (2012) Lower River Shannon SAC (site code 2165) *Conservation objectives supporting document - woodland habitats Version 1* ▪ Page 5: *Threats from agriculture may be direct or indirect. The principal direct threat is clearance and uprooting resulting in destruction of the woodland, although these woodlands, which are either subject to frequent flooding or on steep slopes, are probably not attractive for agricultural reclamation. Indirect threats include fertiliser drift and water pollution, which may increase the trophic status of the wood leading to the stronger growth of nitrophilous species and loss of less vigorous species. However, as these are naturally eutrophic systems the impact is likely to be minimal. Herbicide drift may kill vegetation on the woodland edge.* *Urban Development is a threat principally around Limerick city where some damage has occurred in the recent past. Alluvial woodland is more likely to be damaged by infilling, although new planning legislation will hopefully make this less of a threat. Infrastructural development is likely to be localised and restricted in its impact* *Discharge of sewage effluent and slurry will pollute the water and have an indirect impact on the woodlands. Rubbish washed downstream is mostly aesthetically unattractive, although it may impact on animal life. Garden refuse may lead to the introduction of non-native and potentially invasive species* NPWS (2012) Lower River Shannon SAC (site code 2165) *Conservation objectives supporting document -coastal habitats Version 1* ▪ Page 54: *Historically, much of this site has been considerably remodelled and large areas of land have been reclaimed from within the sheltered intertidal inlet through the construction of an embankment. The embankment is extensive and is found along a large part of the western perimeter of the site…It has obviously had an impact on the development of the saltmarsh and its various communities, including the sedimentation patterns and the spread of Common Cordgrass.* ▪ Page 98: *Continued urbanisation of places like Clarecastle and Ennis (400) might be expected to have an impact on the Annexed habitats and species, particularly the fish and avian fauna.* NPWS (2012) River Shannon and River Fergus Estuaries SPA (004077) *Conservation objectives supporting document Version 1*				

[6] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

[7] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	▪ 5.4.4. Page 70. While the water quality of the River Shannon has an overall classification as 'good' to 'moderate', localised problems are noted such as specific pollutants; lowered oxygen levels and potential nutrient enrichment.				
	Sandbanks which are slightly covered by sea water all the time [1110]	**Favourable**	Xxp No pressures	Xxt No threats	▪ No significant pressures were identified acting on this habitat and the Overall Status is assessed as Favourable with a stable trend, similar to the 2013 assessment (NPWS, 2019a)[8]. ▪ Changes to the habitat as a result of natural causes, e.g. natural forces leading to a change in the area or general topographical feature of the habitat, are considered a neutral impact. Climate change is considered a threat to this habitat although sufficient information is not available to discern the nature and severity of this threat. ▪ The development of windfarms on shallow sandbanks has the potential to lead to an indirect impact on the habitat. ▪ Impacts from benthic dredging (fisheries) are also considered to be a potential threat to this habitat (NPWS, 2019b)[9].
	Estuaries [1130]	**Inadequate**	20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H) XU Unknown pressure (M)	20 Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) A28 Agricultural activities generation marine pollution (H) G16 Marine aquaculture generating marine pollution (H) I02 Other invasive alien species (other than species of Union concern) (H)	▪ Most of the pressures on estuaries come from various sources of pollution, including domestic wastewater, agriculture and marine aquaculture. The overall status is the same as the 2013 assessment; however the trend has changed, due to more accurate data, from improving to declining (NPWS, 2019a)[10]. ▪ Increased sedimentation as a result of surface waters via storm overflows or urban run-off in estuaries surrounded by or downstream of large urban settlements and maintenance dredging, e.g. Dundalk Bay SAC and Lower River Shannon, is considered to be a significant factor in the changes observed to sediment composition and typical species changes.

[8] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1110 Sandbanks, page 12

[9] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 9

[10] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1130 Estuaries, page 12

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Certain activities such as the picking of shellfish on the shore and certain sport and leisure activities are currently considered as a low pressure and threat. Bottom culture of Pacific oyster Magallana gigas (syn. Crassostrea gigas) in Lough Swilly SAC where this invasive species is known to be naturalised is considered a significant pressure. In some cases the pressures acting on an area were unknown. This was particularly the case where changes in benthic sediment communities occurred but no obvious source of the impact could be identified. Changes like increased sedimentation may increase with climate change (NPWS, 2019b)[11] ▪
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	▪ ...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[12]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter

[11] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 23, 24

[12] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					associated with this industry was frequently noted. (NPWS, 2019b)[13].
	Coastal lagoons [1150]	**Bad**	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M)	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M) N04 Sea-level and wave exposure changes due to climate change	▪ Several high-ranking pressures were identified acting on this habitat: eutrophication, modification of hydrological flow, and drainage. Other pressures noted include erosion and silting up, accumulation of seaweed, and sedimentation from peat related to turf cutting and/or forestry. The Overall Status for Lagoons is assessed as Bad, unchanged since the 2013 assessment. However, the overall trend has changed from stable to deteriorating, a genuine decline since 2013 (NPWS, 2019a)[14]. ▪ Climate change has not been added as a current pressure but it is likely to severely impact lagoons in the future in the form of higher sea levels linked to increased storm surges The 2016-2017 survey classified 39 sites (68% of the total habitat area) in terms of water quality, based on measurements of water chemistry, phytoplankton and benthic vegetation. This work showed that 22 sites (20.98% of the total habitat area) were rated poor or bad due to eutrophication. Drainage is an issue in two sites.. Sedimentation from peaty material from the catchment is reducing the quality of a number of lagoons.. ..K04 Modification of hydrological flow (H) impacts 65.9% of the lagoon habitat surveyed between 2016 and 2017 (44.8% of the total habitat area). K02 Drainage (H) impacts 17.2% of the total habitat…(NPWS, 2019b)[15].

[13] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[14] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1150 Lagoons, page 13

[15] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 54-55

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Large shallow inlets and bays [1160]	**Bad**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generating marine pollution (H) **B23** Forestry activities generating pollution to surface or ground waters (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G16** Marine aquaculture generating marine pollution (H) **I02** Other invasive alien species (other than species of Union concern) (H) **Xu** Unknown pressure (M	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generating marine pollution (H) **B23** Forestry activities generating pollution to surface or ground waters (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G16** Marine aquaculture generating marine pollution (H) **I02** Other invasive alien species (other than species of Union concern) (H)	▪ Pressures on the habitat include nutrient enrichment, dredging and invasive alien species. Overall Status is assessed as Bad and deteriorating, a genuine decline since the 2013 assessment of Inadequate and improving, and is based on more detailed information (NPWS, 2019a)[16]. ▪ In some cases the pressures acting on an area were unknown. This was particularly the case where changes in benthic sediment composition occurred but no obvious source of the impact could be identified (NPWS, 2019b)[17].
	Reefs [1170]	**Inadequate**	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	▪ The main pressures on reefs come from fishing methods that damage the seafloor. As a result the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys. (NPWS, 2019a)[18]. ▪ The invasive alien species *Sargassum muticum* has been noted as an increased pressure on intertidal reef areas where it has become established in rock pools within this habitat. The collection of marine algae, particularly *Ascophyllum nodosum*, on a commercial scale has been carried out on intertidal reefs within Irish SACs for many years and continues to have a medium impact on this habitat. The mechanical harvesting of subtidal

[16] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1160 Large Shallow Inlets and Bays, page 14

[17] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 71

[18] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1170 Reefs, page 14

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					kelp beds is now identified as a potential future threat. The use of nets for the capture of commercial species has been identified as a significant threat to subtidal reef habitat (Scally et al., in prep.). The use of towed and static gear on reef habitats for the capture of fish and crustaceans is common throughout the majority of reef habitat. Offshore reef is particularly vulnerable to bottom towed gear which will result in what must be considered as permanent loss to the keystone communities there, given the extremely slow-growing nature of these ecosystems (NPWS, 2019b)[19].
	Perennial vegetation of stony banks [1220]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with coastal defences (which can interfere with sediment dynamics), recreation and shingle removal. (NPWS, 2019a)[20]. ▪ **F07** was the most commonly recorded pressure noted 25 times (seven as a neutral impact) under the impacts 'storage of boats and fishing equipment', 'horse riding, walking', 'trampling', 'off-road driving' and 'camping'… Low importance impacts recorded during the current reporting period included **A36** Agriculture activities not referred to above in the form of fences, **C06** Dumping/depositing of inert materials from terrestrial extraction, **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) in the form of a carpark, and **I04** Problematic native species. Impacts of low importance recorded during the previous reporting period (NPWS, 2013) which were not recorded during the

[19] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 87

[20] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1220Vegetated Shingle, page 16

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					current reporting period included **D07** Oil and gas pipelines (recorded under the impact 'pipelines') and **F10** Deposition and treatment of waste/garbage from commercial and industrial facilities (recorded under the impact 'disposal of inert material). It should be noted that it was not possible to crosswalk the NPWS (2013) recorded impact **H07** Other forms of pollution to the new 2017 pressure codes as there was no matching code. Climate change has not been added as an impact but it is likely to affect the range of 1220 over the coming decades. (NPWS, 2019b)[21].
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	**Inadequate**	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	▪ A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel extraction, and sea-level and wave exposure changes due to climate change. (NPWS, 2019a)[22]. ▪ **M05** (Collapse of terrain, landslide), which was listed as a medium-importance pressure in NPWS (2013), has now been listed as a neutral pressure.. (NPWS, 2019b)[23].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries

[21] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 130-131

[22] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1230 Vegetated Sea cliffs, page 16

[23] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 147

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[24]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[25].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[26]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[27].
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend

[24] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[25] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

[26] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[27] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A10 Extensive grazing or undergrazing by livestock (M)	**A10** Extensive grazing or undergrazing by livestock (M)	represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[28]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[29].
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[30]. ▪ Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water bodies were hydromorphology at 329 (28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been

[28] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean salt meadows, page 18

[29] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

[30] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of Flowing Waters, page 26

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a result, K01 has also been listed as a pressure (NPWS, 2019b)[31]. ▪
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	▪ The main pressures on the habitat are associated with agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry. (NPWS, 2019a)[32].
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	**Bad**	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I05 Plant and animal diseases, pathogens and pests (M)	▪ A number of pressures affect this habitat in Ireland, the most serious being invasive species particularly sycamore (Acer pseudoplatanus), beech (Fagus sylvatica), Indian balsam (Impatiens glandulifera) and currant species (Ribes nigrum and R. rubrum). Some native species such as brambles (Rubus fruticosus agg.) and common nettle can also become over-vigorous. Small area losses due to clear-fellling have also occurred. As a result the Overall Status is Bad and the trend is declining. This poorer trend since the previous assessment is mainly due to the availability of more accurate data, and the decline is considered to have been on-

[31] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[32] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6410 Molinia Meadows, page 30

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					going since before the last assessment (NPWS, 2019a)[33]. ▪ J04 Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance pressure in NPWS (2013) under the code H05.01 Garbage and solid waste. During the current reporting period, it is a low-importance pressure…. A09 Intensive grazing or overgrazing by livestock was listed as a low-importance pressure in NPWS (2013) under the code B06 Grazing in forests/ woodland. During the current reporting period, it is a low-importance pressure…It should be noted that the impact category A09 as reported by Daly et al. (in prep.) is primarily overgrazing by deer (not livestock). Other pressures recorded from the 40 monitoring sites by Daly et al. (in prep.) comprise: E01 Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (three sites), L04 Natural processes of eutrophication or acidification (one site), F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (one site), B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs) (one site), B21 Use of physical plant protection in forestry, excluding tree layer thinning (one site), B12 Thinning of tree layer (one site), B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (one site) and K01 Abstraction from groundwater, surface water or mixed water (one site) (NPWS, 2019b)[34].
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	**Inadequate**	A31 Drainage for use as agricultural land (H)	A31 Drainage for use as agricultural land (H)	▪ Changes in hydrological regime, particularly reduced base flow, but also

[33] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91E0 Alluvial Woodland, page 40

[34] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1097-1098

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	increased scour at high flows, have been demonstrated to impact significantly on populations in Ireland, alone and in combination with pollution. Hydrological change in pearl mussel catchments is largely a result of land drainage (for agriculture (A31), forestry (B27) and peat extraction (C05)), but also results from abstraction for drinking water (F33) and, in at least one catchment (Clady), impoundment for electricity generation (D02)…. F31 – Other modification of hydrological conditions for residential or recreational development – was used to cover the construction of fishery weirs in freshwater pearl mussel habitat in the Owenriff, which led to morphological changes in the habitat and severe impacts on flow….. Pollution with fine sediment and nutrients continues to impact on the species…. Agriculture is a primary source, notably land reclamation and intensification (A01, A02, A04, A05, A13, A20, A31), increased stocking densities and housing of stock, leading to the generation of slurry (A19), and over-grazing (A09). Code A26 for diffuse pollution was used to cover all of these agricultural sources, although with drainage of peatland and wet soils, agricultural pollution can effectively be point source. Physical alteration of river banks, including bank reinforcement (A33) continues to be a significant pressure in pearl mussel rivers and is linked to intensification of agricultural use. A30, abstractions for agriculture, is also a concern, but it has not yet been demonstrated to be more than of low importance. As with other abstraction pressures, A30 may become a more significant threat, in combination with predicted droughts owing to climate change. Direct impacts have been recorded owing to livestock (cattle) in rivers, in at least six catchments, including three priority catchments. Pollution with human waste-water (F12) is also an on-

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					going concern, particularly from on-site systems at tourist attractions… ▪ Operation and maintenance of bridges, roads and other transport infrastructure (E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) continues to be a pressure in pearl mussel catchments. New and upgraded transport infrastructure is still a threat…(NPWS, 2019c)[35].
	Petromyzon marinus (Sea Lamprey) [1095]	**Bad**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	▪ The sea lamprey is listed in the most recent Irish Red Data Book as Near Threatened. Barriers to upstream migration (e.g. weirs) are considered the major impediment to good conservation status for sea lamprey as these limit access to spawning beds and juvenile habitat. (NPWS, 2019a)[36]. ▪ Enrichment and nutrient pollution due to agricultural (A19, A20) and other anthropogenic activities can result in profusions of macrophytes and filamentous algae, obscuring both juvenile and spawning habitats…It is acknowledged that more effort will need to be made in tackling diffuse pollution in Irish rivers… ▪ Increases in river discharge can exacerbate the already high rate of natural egg wash-out, both from within nests and from surrounding spawning gravels.. (NPWS, 2019c)[37]
	Lampetra planeri (Brook Lamprey) [1096]	**Favourable**	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M)	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M)	▪ For brook lamprey in Ireland there are extensive areas of suitable habitat and no significant pressures impacting this species. The Overall Status is therefore assessed as Favourable (NPWS, 2019a)[38]

[35] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 231-323

[36] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 Sea Lamprey, page 52

[37] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 289-290

[38] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1096 Brook Lamprey, page 53

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			B09 Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater	**B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) **F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Diffuse and point source pollution (**A19, A20,** F11, F12) may be having localised impacts on populations of *L. planeri*…Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on habitat availability for L. planeri in certain locations… ▪ All pressures and threats included here are ranked as having medium-level impacts on the long-term viability of *L. planeri* as impacts are generally localised (NPWS, 2019c)[39]
	Lampetra fluviatilis (River Lamprey) [1099]	**Unknown**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) E03 Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M	▪ The inability to distinguish between river lamprey and brook lamprey larvae, and the challenges associated with sampling for adult river lamprey, means that an evaluation of their actual range and population size cannot be undertaken. The Overall Status for river lamprey is therefore assessed as Unknown (NPWS, 2019a)[40]. ▪ Barriers to migration, such as dams and weirs, can impede or prevent upstream passage to spawning and nursery habitat. As river lamprey migrate during winter months, when precipitation is expected to be higher, it is possible that they are able to surmount some of the larger weirs.. Activities that lead to hydrological changes and canalisation of river channels (A31) will impact on spawning and nursery habitat availability for river lamprey in certain locations. Increases in river discharge (N03) can exacerbate the already high rate of natural egg wash-out, both from within lamprey nests and from surrounding spawning gravels.. For spawning river lamprey in Irish catchments, the timing and scale of late-spring and summer flood events are

[39] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 307-308

[40] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 River Lamprey – page 52

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					of concern, particularly given the increased likelihood of such incidents in the future…(NPWS, 2019c)[41]
	Salmo salar (Salmon) [1106]	**Favourable**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	▪ The survival of salmon during the marine phase of its lifecycle has been identified as the key determinant of trends in population size in natal rivers (NPWS, 2019a)[42]. ▪ The key pressures considered to pose threats / challenges to Atlantic salmon include: Water quality from (a) agricultural production, domestic waste-water treatment systems and forestry which are key sources of both rural diffuse and point-source pollution; and (b) urban waste-water pressures which are a source of point-source pollution. Hydromorphological threats relating to physical modification or damage to habitat and natural river/lake processes, and changes functions caused by channelisation, drainage, dams, weirs, barriers and locks, overgrazing, embankments and culverts. Temperature changes related to climate change may shift the phenologies of anadromous fishes. The consequences of such changes are unknown, but the change has the potential to disrupt established ecological relationships at various life history stages. Future warming may intensify the severity of floods and droughts, lessening the frequency of successful annual reproduction for anadromous fishes. Certain invasive alien species have the potential to negatively impact wild salmon habitat in the freshwater or estuarine environment in Ireland through both direct

[41] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 324

[42] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1106 Atlantic salmon, page 55

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and indirect means, although documented knowledge is limited. Illegal catches, both at sea and within rivers remain a concern and an impediment to stock recovery. Over-reporting of catches which can affect population estimates and negatively impact stock assessments and their sustainable management. Impacts of salmon aquaculture on native wild stocks from disease and escapes. (NPWS, 2019c)[43]
	Tursiops truncatus (Common Bottlenose Dolphin) [1349]	**Favourable**	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	▪ Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/ regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of bottlenose dolphin in Irish waters (NPWS, 2019a)[44]. ▪ There is no evidence to suggest a change in the main pressures thought to be acting on this species in the near future (i.e., threats) (NPWS, 2019c)[45].
	Lutra lutra (Otter) [1355]	**Favourable**	Xxp No pressures	Xxt No threats	▪ The otter population (estimated at between 7,000 and 10,000 breeding females) is considered to be increasing and none of the threats or pressures identified is considered likely to impact significantly on the species (NPWS, 2019a)[46]. ▪ Roadkill was considered a Medium pressure in 2013 and while otters are still killed on Irish roads, this is not considered

[43] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, 94-395

[44] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1349 Bottlenose Dolphin, page 65

[45] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 655

[46] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1355 Otter. page 62

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					to pose a risk to conservation status nationally. ▪ Entanglement in fixed fishing nets (e.g. tangle nets) and pots (e.g. fyke nets / lobster pots) was also a concern although it is difficult to estimate the level of resulting mortality due to limited reporting ▪ Diffuse and point-source pollution of freshwaters and coastal waters is likely to impact otters indirectly through changes to prey abundance. These threats are considered to produce local impacts only. (NPWS, 2019c)[47]
Slievefelim to Silvermines Mountain SPA [004165]	Hen Harrier (Circus cyaneus) [A082]				
River Shannon and River Fergus SPA [004077]	Cormorant (Phalacrocorax carbo) [A017]				
	Whooper Swan (Cygnus cygnus) [A038]				
	Light-bellied Brent Goose (Branta bernicla hrota) [A046]				
	Shelduck (Tadorna tadorna) [A048]				
	Wigeon (Anas penelope) [A050]				
	Teal (Anas crecca) [A052]				
	Pintail (Anas acuta) [A054]				
	Shoveler (Anas clypeata) [A056]				▪
	Scaup (Aythya marila) [A062]				▪
	Ringed Plover (Charadrius hiaticula) [A137]				
	Golden Plover (Pluvialis apricaria) [A140]				
	Grey Plover (Pluvialis squatarola) [A141]				
	Lapwing (Vanellus vanellus) [A142]				
	Knot (Calidris canutus) [A143]				
	Dunlin (Calidris alpina) [A149]				
	Black-tailed Godwit (Limosa limosa) [A156]				

[47] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 575

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Bar-tailed Godwit (Limosa lapponica) [A157]				
	Curlew (Numenius arquata) [A160]				
	Redshank (Tringa totanus) [A162]				
	Greenshank (Tringa nebularia) [A164]				
	Black-headed Gull (Chroicocephalus ridibundus) [A179]				
	Wetland and Waterbirds [A999]				

Appendix J
Galway

Galway

Galway has six SACs and three SPAs within 15km of the city's centre. **Figure I-1** shows all European sites within 15km of the city's centre and **Table I-1** lists the QIs for each site and their threats and pressures as identified within the Article 17 (NPWS, 2019a,b,c) reporting.

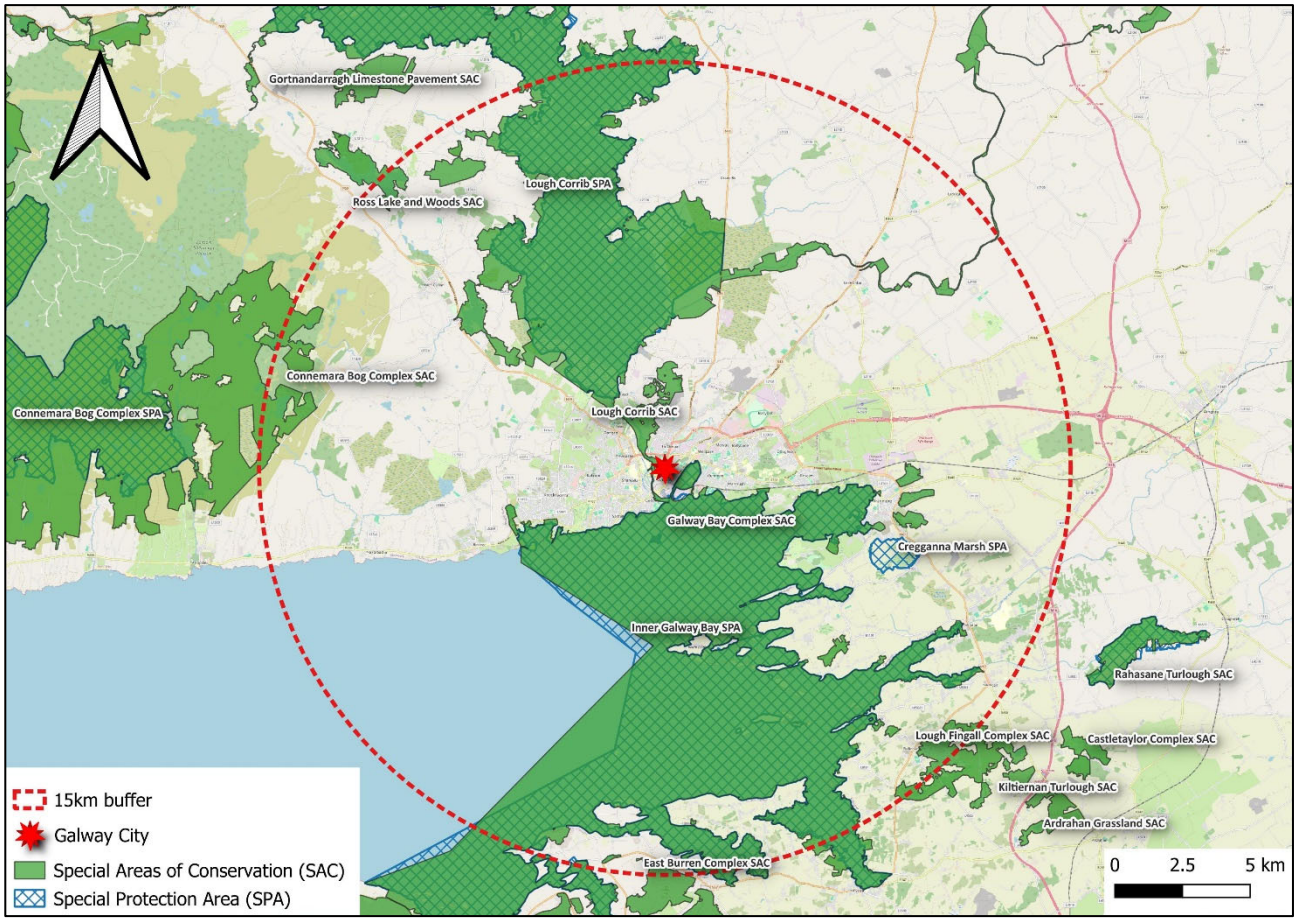

Figure J-1: European sites within 15km of Galway City.

Table J-1: Threats and pressures of QIs of European sites with likely connectivity to Galway City.

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
Lough Fingall Complex SAC 000606	Conservation objectives supporting document. Turloughs* and Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation. NPWS. Version 1.1 Áine O Connor June 2017	*"Overgrazing and, in particular, undergrazing are considered significant threats to turlough conservation status*." *"Active peat formation can be threatened by drainage and other earth movements, as well as changes in hydrological regime"* *"In Ireland, turloughs are considered to be in poor/inadequate conservation status as a result of nutrient enrichment, inappropriate grazing and drainage pressures (NPWS, 2007, 2008, 2013a)"* "*In Ireland, habitat 3270* [1] *is considered to be in poor/inadequate conservation status as a result of nutrient enrichment, inappropriate grazing and drainage pressures (NPWS, 2007, 2008, 2013a)."* [1] Habitat 3270 is Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation			
	Conservation objectives supporting document – lesser horseshoe bat (*Rhinolophus hipposideros*). NPWS Version 1 January 2018	*"Lesser horseshoe bats are sensitive to disturbance and normally do not occupy the same buildings as humans. Loss of roosting sites due to* ***deterioration or renovation of old buildings, loss of commuting routes linking roosts to foraging sites and unsympathetic management of foraging sites are the major threats to this species*** *(McAney, 1994; McGuire, 1998; Roche, 2001).* *In Ireland, the overall conservation status of lesser horseshoe bat is assessed as Favourable. The population is estimated at approximately 14,000 individuals and both short and long term population trends showed slight increases during the last Article 17 reporting period 2007–2012 (NPWS, 2013a). The identified* ***threats are considered manageable*** *and a significant proportion of the species' summer and winter roosts are protected within the Special Area of Conservation (SAC) network (NPWS, 2013a; see Section 1.3)."*			
	Cooper, F., Stone, R.E., McEvoy, P., Wilkins, T. & Reid, N. (2012) *The conservation status of juniper formations in Ireland*. Irish Wildlife Manuals, No. 63 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.				
			"Intensive grazing pressure significantly reduced recruitment success presumably because small seedlings are more vulnerable to domestic stock than mature shrubs." *"The principal drivers of juniper decline….* *1 . Inappropriate management by over-grazing* *2. Abandonment of grazing regimes, or low grazing pressure* *3. Lack of suitable soil conditions preventing seedling establishment* *4. Competition and shading by invasive native and non-native species (the former including natural successional change)* *5. Low levels of seed viability* *6. Population fragmentation resulting in reduced pollination (poor distribution or isolation of sexes)* *7. A male-skewed sex ratio resulting in low reproductive success* *8. Soil nutrient enrichment and aerial nitrogen deposition* *9. Climate change* *10. Habitat destruction "*	*"Main pressures…[of habitat code 5130]* *A03.01 Intensive mowing or intensification L* *A04.01.01 Intensive cattle grazing L* *A04.01.02 Intensive sheep grazing H* *A04.01.05 Intensive mixed animal grazing M* *A04.02.01 Non-intensive cattle grazing M* *A04.02.04 Non-intensive horse grazing L* *A04.02.05 Non-intensive mixed animal grazing H* *A04.03 Abandonment of pastoral systems, lack of grazing M* *C01 Mining and quarrying M* *E01.03 Dispersed habitation M* *E02.01 Factory L* *G05.01 Trampling, overuse H* *I01 Invasive non-native species M* *I02 Problematic native species H* *J01.01 Burning L* *K01.01 Erosion L* *K01.03 Drying out L* *K04.01 Competition (flora) L* *K04.05 Damage by herbivores (natural) H* *M01.03 Flooding and rising precipitation L"*	
	A Survey Of The Wetlands Of The Fergus Catchment And Adjoining Areas. Curtis, T.G.F and McGough, H. N. 1981.		*"Some scrub clearance in area of shore on north-east side is threatening curious fen community if Dryas/Schoenus"* *"Thus the proposed construction of a reservoir at Lough Inchiquin for the town of Ennis must viewed as posing a great threat to the rest of the system and in particular to Lough Atedaun which is connected with the former by a short stretch of the River Fergus."* *"The major threat to the catchment stems from the proposed construction of reservoir at Logh Inchiquin"*		

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Turloughs [3180]	**Inadequate**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M) **A31** Drainage for use as agricultural land (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M) **A31** Drainage for use as agricultural land (M)	▪ These sites are considered to be more marginal examples of the habitat and are likely to be more impacted than the sample assessed in 2013. All pressures are considered to be threats as there are no significant measures planned to counteract these impacts in the immediate future. (NPWS, 2019b)[1]. ▪ Because of on-going pressures related to drainage, groundwater pollution and ecologically unsuitable grazing, the Overall Status has been assessed as Inadequate and stable, unchanged since the 2013 assessment. (NPWS, 2019a)[2].
	Alpine and Boreal heaths [4060]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Sheep grazing is widespread in uplands where this habitat occurs and is a problem for the habitat where grazing levels are high. Hill walking is often concentrated on the summits and ridges where this habitat is found, and can cause erosion and damage to the habitat. Agricultural activities that cause air pollution and consequently nitrogen deposition are also considered to cause significant impacts. Climate change is recognised as a potential future threat to the habitat in the future, particularly in the context of rising temperatures and decreases in precipitation. (NPWS, 2019a)[3]. ▪ D01 (Wind, wave and tidal power) was recorded as a low importance pressure in the previous reporting period. A review of Irish wind farm developments has indicated that 40.3% of wind farms are located within 2 km of 4060 habitat … D01 is retained as a

[1] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 473

[2] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3180 Turloughs, page 25

[3] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4060 Alpine And Subalpine Heath, page 28

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					low-importance pressure for this reporting period. A (NPWS, 2019b)[4]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), I02 (Other invasive alien species (other than species of Union concern)), I04 (Problematic native species) and J03 (Mixed source air pollution, airborne pollutants), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. (NPWS, 2019b)[5]. ▪ B01 (Conversion to forest from other land uses, or afforestation (excluding drainage)), E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) and M05 (Collapse of terrain, landslide), recorded in the current reporting period only, were assessed as low-importance pressures. Approximately 0.01% of the known national 4060 habitat area (0.02 km^2) is either adjacent to or has some evidence of new forestry (i.e. planted within the current reporting period) within it (using PrivateForests2016.shp in conjunction with the 4060 distribution polygon shapefile). It is assessed as a low-importance pressure for this reporting period due to the relatively small area of known 4060 habitat impacted, but actual areas impacted are likely to be higher, particularly outside of designated sites. E01 and M05 were assessed as low-importance pressures due to the fact that they occurred just once each, both with a small footprint on the 4060 habitat. (NPWS, 2019b)[6].

[4] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 596

[5] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Summary Habitat assessments*. Section 7.3 Additional Information, page 597

[6] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 597

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Juniperus communis formations on heaths or calcareous grasslands [5130]	**Favourable**	Xxp No pressures	Xxp No pressures	▪ No pressures were identified as being of high or medium importance nationally. Pressures that affected relatively large areas of the sites where they occurred, but which occurred at a low frequency across the sites surveyed, include **A09** Intensive grazing or overgrazing by livestock and **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing). In most cases where grazing was recorded, it was regarded as either beneficial or not damaging to the habitat. Erosion was recorded at several sites but was not listed as a pressure nationally. Pressures that were high-impact but which affected only a small area of the habitat at a local level include **A05** Removal of small landscape features for agricultural land parcel consolidation (in the form of juniper scrub removal), **A11** Burning for agriculture, **I02** Other invasive alien species (other than species of Union concern), and **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions). One formation was reduced in area by road construction, so the pressure **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) operated locally but the area affected was of a low significance nationally.2019b)[7]. ▪ Local pressures were noted at some juniper stands, including overgrazing, erosion and small areas of juniper scrub removal, but none of the impacts were considered to be significant or to impact on the long-term viability of the habitat at the national level. Short periods of disturbance may even be

[7] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 616

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					beneficial by promoting regeneration (NPWS, 2019a)[8].
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	▪ Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[9]. ▪ The problematic native species listed under I04 was *Pteridium aquilinum* (Bracken) and the most commonly recorded invasive species listed under I02 was *Cotoneaster integrifolius*. (NPWS, 2019b)[10].
	Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [7210]	**Inadequate**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M) **C05** Peat extraction (M)	▪ 2013 is due to improved knowledge/more accurate data and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[11] ▪ The main pressures (and mostly regarded as threats also) facing Cladium fen in Ireland, based on the data available, are 1) human induced changes in hydraulic conditions such as current and historic drainage, and 2) changes in species composition as a result of natural succession due to lack of grazing. Non-intensive grazing was recorded as a positive impact. Pollution of ground and surface waters was not recorded during the limited survey work in the current reporting period. However, it is considered highly likely that such pollution is a moderate negative pressure on this habitat and that

[8] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 5130 Juniper Scrub, page 28

[9] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 29

[10] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 648

[11] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Cladium fens. page 36

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					its omission is as a result of the small survey sample size. Climate change has not been added as an impact but it is likely to affect this habitat in Ireland in decades to come (e.g. warmer temperatures and changes to rainfall and flood events may increase drying out and vegetation succession). In 2013, water abstraction, reclamation and pollution were deemed to be the pressures with the highest impact, and also the biggest threats (NPWS, 2019b)[12]
	Limestone pavements [8240]	**Inadequate**	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	▪ The Overall Status is assessed as Inadequate due to continuing area losses associated with conversion to agricultural land and housing construction, as well as scrub encroachment caused by undergrazing. (NPWS, 2019a)[13]. ▪ It should be noted that the pressure of building housing (**F01**) on the 8240 habitat was not recorded during the previous reporting period (NPWS, 2013), but during the 8240 habitat area review instances of housing being built on areas of limestone pavement were recorded at a high enough frequency for the pressure to be ranked as medium importance nationally. Conversion from the 8240 habitat to commercial or industrial areas **(F03**) was also recorded during the 8240 habitat area review but at a much lower frequency and was therefore assessed as a low-importance pressure nationally and not listed. Problematic native species (**I04**), such as Pteridium aquilinum, were recorded as a medium-importance pressure and threat during the previous reporting period (NPWS, 2013). Pteridium was recorded within the 8240 habitat during the current reporting period but as a low-intensity impact and this difference is

[12] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 867 - 868

[13] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8240 Limestone pavements, page 38

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					considered to be due to an interpretative change rather than any actual change in the occurrence of Pteridium within the habitat. (NPWS, 2019b)[14]
	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	**Inadequate**	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving)) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	▪ Lesser horseshoe bats are faithful to their roosts and will return to the same site each year. Summer roosts are often in the attics of old or derelict buildings.. (NPWS, 2019a)[15]. ▪ Impacts at roosts and to foraging and commuting habitats have been identified as most important for this species. Alterations at buildings used by bats, including renovations, disturbance and lighting, as well as natural flooding at caves, are all known to have caused population declines and in some cases roost abandonment. Predation by cats and pine martens in roosts can also pose a threat. Alterations to commuting routes (e.g. hedgerow clearances) and the felling of foraging habitats can also have significant local impacts. The impact of anti-parasitic drugs on dung fauna, an important component of this bat's diet in winter, is also a concern. These threats were identified in the last report and are also expected to continue into the future (NPWS, 2019c)[16]
Galway Bay Complex SAC 000268	Galway Bay Complex SAC 0002068 Site Synopsis NPWS 2015 "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."				
	Cooper, F., Stone, R.E., McEvoy, P., Wilkins, T. & Reid, N. (2012) *The conservation status of juniper formations in Ireland*. Irish Wildlife Manuals, No. 63 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland. *"Intensive grazing pressure significantly reduced recruitment success presumably because small seedlings are more vulnerable to domestic stock than mature shrubs."* *"The principal drivers of juniper decline….* *1 . Inappropriate management by over-grazing* *2. Abandonment of grazing regimes, or low grazing pressure*				

[14] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1008 - 1010

[15] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1303 LHS Bat, page 57

[16] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Habitat assessments*. Section 7.3 Additional Information,page 450

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	3. Lack of suitable soil conditions preventing seedling establishment *4. Competition and shading by invasive native and non-native species (the former including natural successional change)* *5. Low levels of seed viability* *6. Population fragmentation resulting in reduced pollination (poor distribution or isolation of sexes)* *7. A male-skewed sex ratio resulting in low reproductive success* *8. Soil nutrient enrichment and aerial nitrogen deposition* *9. Climate change* *10. Habitat destruction "* *"Main pressures [of habitat code 5130]* *A03.01 Intensive mowing or intensification L* *A04.01.01 Intensive cattle grazing L* *A04.01.02 Intensive sheep grazing H* *A04.01.05 Intensive mixed animal grazing M* *A04.02.01 Non-intensive cattle grazing M* *A04.02.04 Non-intensive horse grazing L* *A04.02.05 Non-intensive mixed animal grazing H* *A04.03 Abandonment of pastoral systems, lack of grazing M* *C01 Mining and quarrying M* *E01.03 Dispersed habitation M* *E02.01 Factory L* *G05.01 Trampling, overuse H* *I01 Invasive non-native species M* *I02 Problematic native species H* *J01.01 Burning L* *K01.01 Erosion L* *K01.03 Drying out L* *K04.01 Competition (flora) L* *K04.05 Damage by herbivores (natural) H* *M01.03 Flooding and rising precipitation L"*				
	NPWS Galway Bay Complex SAC (site code 268). Conservation objectives supporting document Turloughs. Version 1 February 2013. *"In Ireland, turloughs are considered to be in poor/inadequate conservation status as a result of nutrient enrichment, inappropriate grazing and drainage pressures (NPWS, 2007, 2008). "* *"Grazing is integral to the ecology of turloughs and it is important that appropriate grazing levels are maintained. Overgrazing and, in particular, undergrazing are considered significant threats to turlough conservation status."* *"Active peat formation can be threatened by drainage and other earth movements, as well as changes in hydrological regime. Note: peat formation in turloughs can be affected by natural changes in hydrology (Coxon and Coxon, 1994)."*				
	NPWS Galway Bay Complex SAC (site code 268) Conservation objectives supporting document Lagoons. Version 1 March 2013 *"It was rather surprising to find that this pool was brackish and may have been more interesting in the past, but it now appears to be threatened by encroaching marginal vegetation, nutrient enrichment from domestic waterfowl and deliberate infilling."*				
	Galway Bay Complex SAC (site code 268) Conservation objectives supporting document -coastal habitats NPWS Version 1 January 2013 *The overall grazing pressure on this site is moderate but the intensity of the grazing pressure varies as the saltmarsh is quite fragmented and is spread over a larger area. This has created a typical close-cropped sward over much of the saltmarsh. In most of the site the grazing intensity is not negatively affecting the saltmarsh.*				
	Saltmarsh Monitoring Project 2007-2008 Contract reference D/C/227 Mark McCorry & Tim Ryle A Report for Research Branch, National Parks and Wildlife Service Final Report (2009) *"Common Cordgrass is present within this habitat and has the potential to spread within this habitat in the future and threaten the extent of the habitat."*				

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			"There is also an erosional trend at this site that in the long-term threatens the extent of ASM saltmarsh as there is little opportunity for the retreat of saltmarsh." *"There is also an erosional trend at this site that in the long-term threatens the extent of MSM saltmarsh as there is little opportunity for the retreat of saltmarsh"* *"Spartina swards are likely to continue to spread at this site and threaten the extent of Eelgrass beds and the conservation status of the mudflats at this site (although this habitat is not being assessed)"* *"The main threat to this habitat is the presence of Common Cordgrass."* *"Erosion is not a significant feature at this site. Common Cordgrass is the main threat to the ASM habitat."* *"Erosion of the western section of saltmarsh along the shoreline may eventually threaten the extent of MSM in the long-term, but there are prospects for natural retreat of saltmarsh towards the east into the low-lying area containing wet grassland."* *"There is ongoing development in the port with the possible threat of infilling to create new land."* *"Common Cordgrass probably is the most significant threat to the saltmarsh"*		
			Saltmarsh Monitoring Project 2006 Contract reference D/C/191. Dr Mark McCorry 2007 A Report for Research Branch, National Parks and Wildlife Service. Summary Report (2007) *"Most of the Salicornia flats have been assessed as unfavourable due to the threat of Common Cordgrass (Table 3.8)."* *"Data from Bull Island shows that Common Cordgrass is spreading quite slowly within the Salicornia flats area."* *"Many of the damaging activities recorded in this report have been recorded previously on Irish saltmarshes by Sheehy-Skeffington and Wymer (1991), Curtis and Sheehy-Skeffington (1998) and Curtis (2003). Some of the most significant damaging activities have been agricultural reclamation and infilling for industrial use and large areas of saltmarsh have been reclaimed in the past (Curtis 2003)."* *"Grazing was probably the most common activity and this had a range of impacts depending on its intensity."* *"Many older reports and reviews about the management of saltmarsh and invasive species state that Common Cordgrass can have a negative impact on the conservation value of saltmarshes (Gray & Benham 1990)"* *"Coastal erosion has affected saltmarshes in Britain (Boorman 2003) and coastal squeeze between an eroding seaward edge and fixed flood defence walls has been identified as a major negative impact."* *"Other negative impacts and activities such as dumping and damage from amenity use should be managed on a site by site basis."*		
			MERC Consultants (2007) On behalf of NPWS Surveys of sensitive subtidal benthic communities in • Roaringwater Bay and Islands SAC • Lough Hyne Nature Reserve and Environs SAC • Valentia Harbour and Portmagee Channel SAC • Broadhaven Bay SAC *"Because it is nearly land-locked with relatively little tidal exchange of water, Lough Hyne is vulnerable to the effects of eutrophication. Polluting operations around the lake (including heavy fertilization of agricultural land), and pollution of the streams and drains which feed into the lough, should be prevented where possible. The lough is also used by scuba-divers and field studies groups and disturbance of the habitats and the removal of biological material, especially of Shellfish (e.g. Scallop, Sea Urchins and Lobster) is a potential threat."*		
			MERC Consultants (2006) On behalf of NPWS Surveys of sensitive subtidal benthic communities in • Slyne Head Peninsula SAC • Clew Bay Complex SAC • Galway Bay Complex SAC *"Extraction of maërl 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."*		
	Mudflats and sandflats not covered by seawater at low tide [1140]	**Inadequate**	**F20** Residential or recreational activities and structures generating marine pollution (excl. ▪	**F20** Residential or recreational activities and structures generating marine pollution (excl.	...decline in the habitat since 2013… caused partly by pollution from agricultural, forestry and wastewater sources, as well as

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	marine macro- and micro- particular pollution (H) **A28** Agricultural activities generation marine pollution (H) **G16** Marine aquaculture generating marine pollution (H)	impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas). (NPWS, 2019a)[17]. ▪ Nutrient enrichment of enclosed bays with poor mixing was particularly evident. The main contributing factor to increased nutrient enrichment on the intertidal flats was considered to be diffuse pollution as a result of agricultural and forestry activities and wastewater discharges. In some cases the pressures acting on an area were unknown. Effective loss of the habitat area of Mudflats and sandflats not covered by seawater at low tide has been driven by the expansion in bottom culture of oysters. Compaction of sediments within the intertidal area as a result of machinery associated with oyster bottom culture driving over intertidal flats and litter associated with this industry was frequently noted. (NPWS, 2019b)[18].
	Coastal lagoons [1150]	**Bad**	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M)	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M) N04 Sea-level and wave exposure changes due to climate change	▪ Several high-ranking pressures were identified acting on this habitat: eutrophication, modification of hydrological flow, and drainage. Other pressures noted include erosion and silting up, accumulation of seaweed, and sedimentation from peat related to turf cutting and/or forestry. The Overall Status for Lagoons is assessed as Bad, unchanged since the 2013 assessment. However, the overall trend has changed from stable to deteriorating, a genuine decline since 2013 (NPWS, 2019a)[19]. ▪ Climate change has not been added as a current pressure but it is likely to severely impact lagoons in the future in the form of

[17] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1140 Tidal Mudflats and Sandflats, page 13

[18] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 38

[19] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1150 Lagoons, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					higher sea levels linked to increased storm surges The 2016-2017 survey classified 39 sites (68% of the total habitat area) in terms of water quality, based on measurements of water chemistry, phytoplankton and benthic vegetation. This work showed that 22 sites (20.98% of the total habitat area) were rated poor or bad due to eutrophication. Drainage is an issue in two sites.. Sedimentation from peaty material from the catchment is reducing the quality of a number of lagoons.. ..K04 Modification of hydrological flow (H) impacts 65.9% of the lagoon habitat surveyed between 2016 and 2017 (44.8% of the total habitat area). K02 Drainage (H) impacts 17.2% of the total habitat…(NPWS, 2019b)[20]. ▪
	Large shallow inlets and bays [1160]	**Bad**	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generating marine pollution (H) **B23** Forestry activities generating pollution to surface or ground waters (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G16** Marine aquaculture generating marine pollution (H) **I02** Other invasive alien species (other than species of Union concern) (H) **Xu** Unknown pressure (M	**F20** Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution (H) **A28** Agricultural activities generating marine pollution (H) **B23** Forestry activities generating pollution to surface or ground waters (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G16** Marine aquaculture generating marine pollution (H) **I02** Other invasive alien species (other than species of Union concern) (H)	▪ Pressures on the habitat include nutrient enrichment, dredging and invasive alien species. Overall Status is assessed as Bad and deteriorating, a genuine decline since the 2013 assessment of Inadequate and improving, and is based on more detailed information (NPWS, 2019a)[21]. ▪ In some cases the pressures acting on an area were unknown. This was particularly the case where changes in benthic sediment composition occurred but no obvious source of the impact could be identified (NPWS, 2019b)[22]. ▪

[20] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 54-55

[21]NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1160 Large Shallow Inlets and Bays, page 14

[22] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 71

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Reefs [1170]	**Inadequate**	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	▪ The main pressures on reefs come from fishing methods that damage the seafloor. As a result the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys. (NPWS, 2019a)[23]. ▪ The invasive alien species *Sargassum muticum* has been noted as an increased pressure on intertidal reef areas where it has become established in rock pools within this habitat. The collection of marine algae, particularly *Ascophyllum nodosum*, on a commercial scale has been carried out on intertidal reefs within Irish SACs for many years and continues to have a medium impact on this habitat. The mechanical harvesting of subtidal kelp beds is now identified as a potential future threat. The use of nets for the capture of commercial species has been identified as a significant threat to subtidal reef habitat (Scally et al., in prep.). The use of towed and static gear on reef habitats for the capture of fish and crustaceans is common throughout the majority of reef habitat. Offshore reef is particularly vulnerable to bottom towed gear which will result in what must be considered as permanent loss to the keystone communities there, given the extremely slow-growing nature of these ecosystems (NPWS, 2019b)[24].
	Perennial vegetation of stony banks [1220]	**Inadequate**	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and	**F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with coastal defences (which can interfere with sediment dynamics),

[23] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1170 Reefs, page 14

[24] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 87

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	areas (including sea defence or coast protection works and infrastructures) (H) **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F09** Deposition and treatment of waste/garbage from household/recreational facilities (M) **I02** Other invasive alien species (other than species of Union concern) (M)	recreation and shingle removal. (NPWS, 2019a)[25]. ▪ **F07** was the most commonly recorded pressure noted 25 times (seven as a neutral impact) under the impacts 'storage of boats and fishing equipment', 'horse riding, walking', 'trampling', 'off-road driving' and 'camping'… Low importance impacts recorded during the current reporting period included **A36** Agriculture activities not referred to above in the form of fences, **C06** Dumping/depositing of inert materials from terrestrial extraction, **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions) in the form of a carpark, and **I04** Problematic native species. Impacts of low importance recorded during the previous reporting period (NPWS, 2013) which were not recorded during the current reporting period included **D07** Oil and gas pipelines (recorded under the impact 'pipelines') and **F10** Deposition and treatment of waste/garbage from commercial and industrial facilities (recorded under the impact 'disposal of inert material). It should be noted that it was not possible to crosswalk the NPWS (2013) recorded impact **H07** Other forms of pollution to the new 2017 pressure codes as there was no matching code. Climate change has not been added as an impact but it is likely to affect the range of 1220 over the coming decades. (NPWS, 2019b)[26].
	Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	**Inadequate**	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M)	**C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (M)	▪ A number of significant pressures were identified, including trampling by walkers, invasive non-native species, gravel

[25] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1220 Vegetated Shingle, page 16

[26] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 130-131

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			E01 Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	**E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M) **N03** Increases or changes in precipitation due to climate change (M) **N04** Sea-level and wave exposure changes due to climate change (M)	extraction, and sea-level and wave exposure changes due to climate change. (NPWS, 2019a)[27]. ▪ **M05** (Collapse of terrain, landslide), which was listed as a medium-importance pressure in NPWS (2013), has now been listed as a neutral pressure.. (NPWS, 2019b)[28].
	Salicornia and other annuals colonising mud and sand [1310]	**Favourable**	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **A09** Intensive grazing or overgrazing by livestock (M)	▪ As this habitat is dominated by annuals it can be ephemeral or transient in nature and is highly susceptible to erosion. Its distribution can vary considerably from year to year and it can move in response to changing conditions, e.g. in estuaries with shifting river channels. However, no significant pressures were identified that would affect the long-term viability of the habitat. (NPWS, 2019a)[29]. ▪ **L02** Natural succession resulting in species composition change (other than by direct changes. of agricultural or forestry practices)….Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1310 over the coming decades. (NPWS, 2019b)[30].
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**Favourable**	**A09** Intensive grazing or overgrazing by livestock (H)	**A09** Intensive grazing or overgrazing by livestock (H)	▪ The Overall Status is assessed as Inadequate, due mainly to pressures from

[27] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1230 Vegetated sea cliffs, page 16

[28] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 147

[29] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1310 Salicornia Mud, page 17

[30] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 163-164

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F07 Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**F07** Sports, tourism and leisure activities (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **F08** Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures) (M) **I02** Other invasive alien species (other than species of Union concern) (M)	agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[31]. ▪ Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1330 over the coming decades (NPWS, 2019b)[32].
	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A33** Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams) (M) **A36** Agriculture activities not referred to above (M) **A10** Extensive grazing or undergrazing by livestock (M)	▪ The Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, undergrazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area (NPWS, 2019a)[33]. ▪ **D01** Paths, tracks, cycling tracks was assessed as low importance. **F07** Recreational activities code, and was ranked as low importance. Climate change has not been added as an impact of medium or high importance, but it is likely to affect the range of 1410 over the coming decades. (NPWS, 2019b)[34].
	Turloughs [3180]	**Inadequate**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M)	▪ These sites are considered to be more marginal examples of the habitat and are likely to be more impacted than the sample assessed in 2013. All pressures are

[31] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1330 Atlantic Salt Meadows, page 17.

[32] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 181

[33] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1410 Mediterranean Salt Meadows, page 18

[34] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 199-200

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A31 Drainage for use as agricultural land (M)	**A31** Drainage for use as agricultural land (M)	considered to be threats as there are no significant measures planned to counteract these impacts in the immediate future. (NPWS, 2019b)[35]. ▪ Because of on-going pressures related to drainage, groundwater pollution and ecologically unsuitable grazing, the Overall Status has been assessed as Inadequate and stable, unchanged since the 2013 assessment. (NPWS, 2019a)[36].
	Juniperus communis formations on heaths or calcareous grasslands [5130]	**Favourable**	Xxp No pressures	Xxp No pressures	▪ No pressures were identified as being of high or medium importance nationally. Pressures that affected relatively large areas of the sites where they occurred, but which occurred at a low frequency across the sites surveyed, include **A09** Intensive grazing or overgrazing by livestock and **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing). In most cases where grazing was recorded, it was regarded as either beneficial or not damaging to the habitat. Erosion was recorded at several sites but was not listed as a pressure nationally. Pressures that were high-impact but which affected only a small area of the habitat at a local level include **A05** Removal of small landscape features for agricultural land parcel consolidation (in the form of juniper scrub removal), **A11** Burning for agriculture, **I02** Other invasive alien species (other than species of Union concern), and **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions). One formation was reduced in area by road construction, so the pressure **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) operated

[35] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 473

[36] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3180 Turloughs, page 25

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					locally but the area affected was of a low significance nationally.2019b)[37]. ▪ Local pressures were noted at some juniper stands, including overgrazing, erosion and small areas of juniper scrub removal, but none of the impacts were considered to be significant or to impact on the long-term viability of the habitat at the national level. Short periods of disturbance may even be beneficial by promoting regeneration (NPWS, 2019a)[38].
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	▪ Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[39]. ▪ The problematic native species listed under I04 was *Pteridium aquilinum* (Bracken) and the most commonly recorded invasive species listed under I02 was *Cotoneaster integrifolius*. (NPWS, 2019b)[40].
	Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [7210]	**Inadequate**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H)	▪ 2013 is due to improved knowledge/more accurate data and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[41] ▪ The main pressures (and mostly regarded as threats also) facing Cladium fen in Ireland, based on the data available, are 1) human induced changes in hydraulic

[37] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 616

[38] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 5130 Juniper Scrub, page 28

[39] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 29

[40] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 648

[41] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Cladium fens, page 34

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			J01 Mixed source pollution to surface and ground waters (M)	**J01** Mixed source pollution to surface and ground waters (M) **C05** Peat extraction (M)	conditions such as current and historic drainage, and 2) changes in species composition as a result of natural succession due to lack of grazing. Non-intensive grazing was recorded as a positive impact. Pollution of ground and surface waters was not recorded during the limited survey work in the current reporting period. However, it is considered highly likely that such pollution is a moderate negative pressure on this habitat and that its omission is as a result of the small survey sample size. Climate change has not been added as an impact but it is likely to affect this habitat in Ireland in decades to come (e.g. warmer temperatures and changes to rainfall and flood events may increase drying out and vegetation succession). In 2013, water abstraction, reclamation and pollution were deemed to be the pressures with the highest impact, and also the biggest threats (NPWS, 2019b)[42]
	Alkaline fens [7230]	**Bad**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (M) **K04** Modification of hydrological flow (M) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **N02** Droughts and decrease in precipitation due to climate change (M) **N03** Increases or changes in precipitation due to climate change (M)	▪ The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution (NPWS, 2019a)[43]. ▪ The main pressures (and also threats) facing alkaline fens in Ireland, based on the data available, are abandonment (and consequent succession), overgrazing, drainage and pollution. Climate change is likely to affect this habitat due to warmer temperatures and changes to rainfall and flood events, which may increase drying out and vegetation succession. In 2013, many similar threats were identified, but land reclamation and invasion by non-native

[42]NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 867 - 868

[43] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Alkaline fens page 36

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					species were both deemed to be significant pressures (and threats). (NPWS, 2019b)[44]
	Limestone pavements [8240]	**Inadequate**	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	▪ The Overall Status is assessed as Inadequate due to continuing area losses associated with conversion to agricultural land and housing construction, as well as scrub encroachment caused by undergrazing. (NPWS, 2019a)[45]. ▪ It should be noted that the pressure of building housing (**F01**) on the 8240 habitat was not recorded during the previous reporting period (NPWS, 2013), but during the 8240 habitat area review instances of housing being built on areas of limestone pavement were recorded at a high enough frequency for the pressure to be ranked as medium importance nationally. Conversion from the 8240 habitat to commercial or industrial areas **(F03**) was also recorded during the 8240 habitat area review but at a much lower frequency and was therefore assessed as a low-importance pressure nationally and not listed. Problematic native species (**I04**), such as Pteridium aquilinum, were recorded as a medium-importance pressure and threat during the previous reporting period (NPWS, 2013). Pteridium was recorded within the 8240 habitat during the current reporting period but as a low-intensity impact and this difference is considered to be due to an interpretative change rather than any actual change in the occurrence of Pteridium within the habitat. (NPWS, 2019b)[46]
	Lutra lutra (Otter) [1355]	**Favourable**	No pressures	No threats	▪ The main threats to the otter include pollution, particularly organic pollution

[44] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 907 - 908

[45] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8240 Limestone pavements, page 38

[46] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1008 - 1010

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					resulting in fish kills; and accidental deaths (road traffic and fishing gear)[47].
	Phoca vitulina (Harbour Seal) [1365]	**Favourable**	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	**C09** Geotechnical surveying (M) **G01** Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	▪ Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as local/regional prey removal by fisheries or by-catch in fisheries, or geophysical seismic exploration; other possible impacts may occur from coastal tourism and localised human disturbance at haul-out sites. None of these pressures are considered to be of sufficient magnitude to adversely impact on populations of harbour seals in Irish waters. (NPWS, 2019a)[48]. ▪ Other possible impacts may occur from coastal tourism and localised human disturbance at haul-out sites (NPWS, 2019c)[49]
Ross Lake and Woods SAC 001312	O Connor, Á. (2015) Habitats Directive Annex I lake habitats: a working interpretation for the purposes of site-specific conservation objectives and Article 17 reporting. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.		*"Even in Ireland, however, the oligotrophic isoetid lake habitat is under significant pressure from eutrophication, peatland drainage and, to a lesser extent, acidification"* *"3130 Mixed Najas flexilis lake habitat….The habitat is under significant pressure from eutrophication, peatland drainage and, to a lesser extent, acidification."* *"3140 Hard-water lake habitat…Habitat 3140 is under significant pressure from eutrophication, the primary sources of pollutants being agriculture and municipal and industrial wastewaters. Pollutant pathways through groundwater are a significant concern, in particular the high phosphate concentration recorded in karst aquifers (Craig et al., 2010)."* *"3150 Rich pondweed lake habitat….Lakes with habitat 3150 are associated with catchments dominated by mineral soils and, hence, some of the most intensive agricultural lands in Ireland. Consequently, the habitat has been under pressure from eutrophication since the 1970s or before."* Report contains a summary of 2013 pressures reported as impacting on Annex I lake habitats. https://www.npws.ie/sites/default/files/publications/pdf/Lake_habitats_supporting_document_Nov_2015_V1.1_FINAL.pdf		
	Conservation objectives supporting document – lesser horseshoe bat (*Rhinolophus hipposideros*). NPWS Version 1 January 2018		*"Lesser horseshoe bats are sensitive to disturbance and normally do not occupy the same buildings as humans. Loss of roosting sites due to* ***deterioration or renovation of old buildings, loss of commuting routes linking roosts to foraging sites and unsympathetic management of foraging sites are the major threats to this species*** *(McAney, 1994; McGuire, 1998; Roche, 2001).* *In Ireland, the overall conservation status of lesser horseshoe bat is assessed as Favourable. The population is estimated at approximately 14,000 individuals and both short and long term population trends showed slight increases during the last Article 17 reporting period 2007–2012 (NPWS, 2013a). The identified* ***threats are considered manageable*** *and a significant proportion of the species' summer and winter roosts are protected within the Special Area of Conservation (SAC) network (NPWS, 2013a; see Section 1.3)."*		

[47] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1355 Otter, page 62

[48] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: Harbour Seal, page 64

[49] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 820

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The hard-water lake habitat is under significant pressure from eutrophication, the primary sources of nutrient and organic pollution being agriculture and municipal and industrial wastewaters. Movement of pollutants, especially phosphorus, through groundwater is a significant concern. (NPWS, 2019a)[50].
	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	**Inadequate**	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M)	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M)	▪ Lesser horseshoe bats are faithful to their roosts and will return to the same site each year. Summer roosts are often in the attics of old or derelict buildings.. (NPWS, 2019a)[51]. ▪ Impacts at roosts and to foraging and commuting habitats have been identified as most important for this species. Alterations at buildings used by bats, including renovations, disturbance and lighting, as well as natural flooding at caves, are all known to have caused population declines and in some cases roost abandonment. Predation by cats and pine martens in roosts can also pose a threat. Alterations to

[50] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3140 Hard-Water Lake Habitat, page 24

[51] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1303 LHS Bat, page 57

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			H08 Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving)) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	**H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	commuting routes (e.g. hedgerow clearances) and the felling of foraging habitats can also have significant local impacts. The impact of anti-parasitic drugs on dung fauna, an important component of this bat's diet in winter, is also a concern. These threats were identified in the last report and are also expected to continue into the future (NPWS, 2019c)[52]
Lough Corrib SAC 000297	Conservation objectives supporting document – lesser horseshoe bat (*Rhinolophus hipposideros*). NPWS Version 1 January 2018		*"Lesser horseshoe bats are sensitive to disturbance and normally do not occupy the same buildings as humans. Loss of roosting sites due to* ***deterioration or renovation of old buildings, loss of commuting routes linking roosts to foraging sites and unsympathetic management of foraging sites are the major threats to this species*** *(McAney, 1994; McGuire, 1998; Roche, 2001).* *In Ireland, the overall conservation status of lesser horseshoe bat is assessed as Favourable. The population is estimated at approximately 14,000 individuals and both short and long term population trends showed slight increases during the last Article 17 reporting period 2007–2012 (NPWS, 2013a). The identified* ***threats are considered manageable*** *and a significant proportion of the species' summer and winter roosts are protected within the Special Area of Conservation (SAC) network (NPWS, 2013a; see Section 1.3)."*		
	NPWS Lough Corrib SAC (site code 000297) Conservation objectives supporting documentNajas flexilis (Willd.) Rostk. & W.L.E. Schmidt. Version 1 April 2017		*"Eutrophication is considered a significant pressure on the species, which grows at the lower levels of the euphotic zone and can easily be out-competed by perennials such a pondweeds (Potamogeton spp.) and 'shaded' by abundant phytoplankton (Preston and Croft, 2001; Roden, 2004, 2007; Wingfield et al., 2004; Roden and Murphy, 2014). Acidification is also considered a threat to the species (Roden, 2004; Wingfield et al., 2004)."* *"Upstream drainage leads to more rapid run-off and is associated with other significant pressures, notably the degradation of peatlands, which causes the release of organic acids, ammonia and other organic matter, and the direct transport of nutrients and other pollutants to lakes."* *"Acidification is also considered a threat to the species (Roden, 2004; Wingfield et al., 2004)."* *"Acidification is considered to be a significant threat to Najas flexilis (Preston and Croft, 2001; Roden, 2004, Wingfield et al., 2004)."* *"Enrichment of lake water and sediments with phosphorus and nitrogen (eutrophication) is considered a significant pressure on the species* [Najas flexilis] *(Preston and Croft, 2001; Roden, 2004, 2007; Wingfield et al., 2004)."* *"Competition from both native and non-native species is a potential threat to Najas flexilis. Wingfield et al. (2004) noted competition by the native species Myriophyllum alterniflorum and Chara spp. as possibly impacting on Najas flexilis in a Scottish Loch. Competition from native species could be part of a natural lake-succession or, more likely, promoted by environmental disturbances such as eutrophication. The occurrence of the non-native Lagarosiphon major was noted by Roden and Murphy (2014)."*		
	Raised Bog Monitoring and Assessment Survey 2013- Addergoole SAC 000297 Addergoole Bog (SAC 000297), Co.Galway		*"Peat cutting, associated drainage and drainage on adjoining cutover are the most threatening current activities at the site."* *"Active Raised Bog… Future Prospects are considered Unfavourable Bad-Declining as impacting activities (peat cutting and drainage) continue to threaten the habitat."* *"Impacting activities such as peat cutting, marginal drainage and drainage on cutover adjacent to the high bog continue to threaten Active and Degraded Raised Bog."* *"Active Raised Bog… Future Prospects are considered Unfavourable Bad-Declining as impacting activities, especially peat cutting and drainage, continue to threaten the habitat."* *"Degraded Raised Bog…Future Prospects are considered Unfavourable Bad-Declining due to threatening impacting activities."*		

[52] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 450

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
		"Depressions on peat substrates of the Rhynchosporion …. Future Prospects are considered Unfavourable Bad-Declining, however, as a result of threatening impacting activities."			
	Assessment Of Impacts Of Turf Cutting On Designated Raised Bogs Document 1 Summary Report. A Report To The Research Section Of National Parks & Wildlife Service Department Of The Environment, Heritage & Local Government. Fernando Fernandez Valverde Dr Fiona MacGowan Mairéad Farrell William Crowley Yvonne Croal Maeve Fanning Dr Anne-Marie McKee March, 2006	*Turf cutting* is noted as both a threat and a pressure.			
	Assessment of the distribution and abundance of Kingfisher Alcedo atthis and other riparian birds on six SAC river systems in Ireland. Prepared by Sinéad Cummins, Jennifer Fisher, Ruth Gaj McKeever, Laura McNaghten & Olivia Crowe A report commissioned by the National Parks and Wildlife Service and prepared by BirdWatch Ireland June 2010	*"Grazing pressure was evident on all of the rivers shown. Intensive cattle grazing (Fig. 6) was the most common type of grazing and was particularly common on the Blackwater, the Nore, the Boyne and the Ilen. Sheep grazing was the next most common grazing type and was common on the Boyne, the Clare, the Gill and the Barrow (Table 2b)."* *"Pressures and threats associated with transport such as paths/tracks, roads/motorways, bridge/viaduct and car parks appeared to be the most commonly encountered threats to the river systems. Industrial and commercial activity was recorded on at least 10% of sections on the Barrow, Boyne and Nore. Motorised nautical sports were prevalent on the Barrow with almost 30% of sections being subject to disturbance of this kind, and largely absent from all of the other river systems. Non-motorised nautical sports were fairly common on the Moy, Boyne and Clare systems. (e.g. 36% of sections on the Moy were affected by this, and was mostly related to fishing. Pollution due to agriculture and forestry was prevalent, especially on the Boyne and the Clare systems (Table 2b). Pollution due to household sewage and waste waters was most prevalent on the Barrow and Munster Blackwater. Management for drainage was very common on the Nore, Barrow and Boyne systems. Water deviation was encountered in very few sections, with the exception of the Barrow where water deviation was encountered on 25% of sections surveyed. Modifying structures of watercourses were present along most of the river systems and were common along the Barrow, the Boyne and the Moy. Erosion and erosion prevention were also common on the river systems, particularly on the Moy."*			
	Lough Corrib SAC 000297. Site Synopsis. NPWS 2022	*"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 (Aphanomyces astaci) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development"*			
	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) **A31** Drainage for use as agricultural land (H)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) A31 Drainage for use as agricultural land (H)	▪ …is under significant pressure from eutrophication, and from drainage and other damage to peatland. (NPWS, 2019a)[53]. ▪ Damage to peatland can result in hydrological changes in lakes, increased organic matter, water colour and turbidity, changes in sediment characteristics,

[53] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	**B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	acidification and enrichment. (NPWS, 2019a)[54]. ▪ Pollution with dissolved and particulate organic matter and nutrients, as well as fine sediment and increased water colour, are significant concerns for habitat 3110. (NPWS, 2019b)[55]. ▪ F12 covers discharges from both urban waste-water (UWW) treatment plants (sewered) and on-site systems (unsewered). Onsite systems are more common pressures in the catchments of 3110 lakes. (NPWS, 2019b)[56]. ▪ Abstractions for drinking water (F33) or other purposes (F34, A30, C14) are considered to be pressures of low importance, as they impact on relatively few 3110 lakes. It is possible, however, that abstractions may be a more significant threat, in combination with predicted droughts owing to climate change. (NPWS, 2019b)[57].
	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]	**Inadequate**	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H)	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H)	▪ It is under significant pressure from drainage, agriculture, peat extraction, forestry and wastewaters(NPWS, 2019a)[58]. ▪ Turf cutting (**C05**) was noted as a pressure at 4 catchments (8%). Golf courses were present adjacent to at least two 3130 lakes, therefore **F16** 'Other residential and recreational activities and structures generating diffuse pollution to surface or ground waters' can be considered a

[54] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

[55] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 367

[56] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 368

[57] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 368

[58] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3130 Mixed *Najas flexilis* Lake Habitat, page 23

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			I02 Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) C05 Peat extraction (M)	**I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) C05 Peat extraction (M)	pressure and threat of low importance. (NPWS, 2019b)[59].
	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The hard-water lake habitat is under significant pressure from eutrophication, the primary sources of nutrient and organic pollution being agriculture and municipal and industrial wastewaters. Movement of pollutants, especially phosphorus, through groundwater is a significant concern. (NPWS, 2019a)[60].
	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources

[59] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 389

[60] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3140 Hard-Water Lake Habitat, page 24

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[61]. Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water bodies were hydromorphology at 329 (28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a result, K01 has also been listed as a pressure (NPWS, 2019b)[62].
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[63].

[61] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of flowing waters, page 26

[62] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[63] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 29

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					▪ The problematic native species listed under I04 was *Pteridium aquilinum* (Bracken) and the most commonly recorded invasive species listed under I02 was *Cotoneaster integrifolius*. (NPWS, 2019b)[64].
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	▪ The main pressures on the habitat are associated with agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry. (NPWS, 2019a)[65].
	Active raised bogs [7110]	**Bad**	**C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **A11** Burning for agriculture (M)	**C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **A11** Burning for agriculture (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on active raised bog are peat extraction, drainage, afforestation and burning. Climate change is also considered to pose a threat in the future (NPWS, 2019a)[66]. ▪ Invasive (**I02**) and problematic native species (**I04**): condition assessments undertaken in the reporting period have indicated that invasive species continue to threaten the future prospects for ARB at 6 of the 28 sites assessed. There is no evidence of an increasing trend in invasive or problematic native species in the current period…There are increasing concerns about the potential negative impacts on raised bog habitats from climate change and at a more localised level from air

[64] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 648

[65] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6410 Molinia Meadows, page 30

[66] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7110 Active raised bogs, page 32

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					pollution (nitrogen deposition) in recent years (NPWS, 2019b)[67].
	Degraded raised bogs still capable of natural regeneration [7120]	**Bad**	**C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) A11 Burning for agriculture (M)	**C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **A11** Burning for agriculture (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on Degraded raised bog come from peat extraction, drainage, afforestation and burning. Climate change is recognised as an additional threat in the future (NPWS, 2019a)[68]. ▪ Invasive (I02) and problematic native species (I04): condition assessments undertaken in the reporting period have indicated that invasive species continue to threaten the Future prospects for DRB at 6 of the 28 sites assessed… There are increasing concerns about the potential negative impacts on raised bog habitats from climate change and at a more localised level from air pollution (nitrogen deposition) in recent years. Further investigations and monitoring to understand the potential impacts on raised bogs habitat from air pollution is needed. (NPWS, 2019b).[69]
	Depressions on peat substrates of the Rhynchosporion [7150]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on the habitat are associated with impacts on the supporting bog habitats, especially overgrazing, burning, peat extraction, drainage and conversion to forestry (NPWS, 2019a)[70] ▪ Invasive (**I02**) and problematic native species **(I04**): raised bog condition assessments undertaken in the reporting period have indicated that invasive species continue to threaten the Future prospects of ARB and Rhynchosporion depressions at 6 of the 28 sites assessed. There are increasing concerns about the potential negative impacts on peatlands from climate

[67] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 743 - 745

[68] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7120 Degraded Raised Bogs, page 32

[69] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 784 - 785

[70] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7150 Rhynchosporion Depressions, page 34

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					change and at a more localised level from air pollution (nitrogen deposition) in recent years. (NPWS, 2019b).[71]
	Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]	**Inadequate**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M) **C05** Peat extraction (M)	▪ 2013 is due to improved knowledge/more accurate data and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[72] ▪ The main pressures (and mostly regarded as threats also) facing Cladium fen in Ireland, based on the data available, are 1) human induced changes in hydraulic conditions such as current and historic drainage, and 2) changes in species composition as a result of natural succession due to lack of grazing. Non-intensive grazing was recorded as a positive impact. Pollution of ground and surface waters was not recorded during the limited survey work in the current reporting period. However, it is considered highly likely that such pollution is a moderate negative pressure on this habitat and that its omission is as a result of the small survey sample size. Climate change has not been added as an impact but it is likely to affect this habitat in Ireland in decades to come (e.g. warmer temperatures and changes to rainfall and flood events may increase drying out and vegetation succession). In 2013, water abstraction, reclamation and pollution were deemed to be the pressures with the highest impact, and also the biggest threats (NPWS, 2019b)[73]
	Petrifying springs with tufa formation (Cratoneurion) [7220]	**Inadequate**	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M)	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M)	▪ The highest impact was deemed to be from 'Landfill, land reclamation and drying out, general (**J02.01**)'. This ties in with **E01**, **H08** and **K02** identified in the current

[71] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Summary Habitat assessments*. Section 7.3 Additional Information, page 843

[72] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Cladium fens, page 36

[73] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Summary Habitat assessments*. Section 7.3 Additional Information, page 867 - 868

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A10 Extensive grazing or undergrazing by livestock (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (H) **F07** Sports, tourism and leisure activities (M) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) K02 Drainage (H) **K04** Modification of hydrological flow (H)	**A10** Extensive grazing or undergrazing by livestock (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **H08** Other human intrusions and disturbance not mentioned above (H) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) **K02** Drainage (H) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	assessment. Other important impacts included those relating to abandonment, water pollution, trampling/overuse/ intensive grazing. All of these have strong parallels in the current assessment (e.g. **J01**, **A06**, **H08**). Climate change has not been included as an impact but it is likely to affect this habitat in Ireland in decades to come (NPWS, 2019b)[74].
	Alkaline fens [7230]	**Bad**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (M) **K04** Modification of hydrological flow (M) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **N02** Droughts and decrease in precipitation due to climate change (M) **N03** Increases or changes in precipitation due to climate change (M)	▪ The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution (NPWS, 2019a)[75]. ▪ The main pressures (and also threats) facing alkaline fens in Ireland, based on the data available, are abandonment (and consequent succession), overgrazing, drainage and pollution. Climate change is likely to affect this habitat due to warmer temperatures and changes to rainfall and flood events, which may increase drying out and vegetation succession. In 2013, many similar threats were identified, but land reclamation and invasion by non-native species were both deemed to be significant pressures (and threats). (NPWS, 2019b)[76]
	Limestone pavements [8240]	**Inadequate**	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M) **F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	▪ The Overall Status is assessed as Inadequate due to continuing area losses associated with conversion to agricultural land and housing construction, as well as

[74] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 886

[75] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Alkaline fens, page 36

[76] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 907 - 908

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					scrub encroachment caused by undergrazing. (NPWS, 2019a)[77]. ▪ It should be noted that the pressure of building housing (**F01**) on the 8240 habitat was not recorded during the previous reporting period (NPWS, 2013), but during the 8240 habitat area review instances of housing being built on areas of limestone pavement were recorded at a high enough frequency for the pressure to be ranked as medium importance nationally. Conversion from the 8240 habitat to commercial or industrial areas **(F03**) was also recorded during the 8240 habitat area review but at a much lower frequency and was therefore assessed as a low-importance pressure nationally and not listed. Problematic native species (**I04**), such as Pteridium aquilinum, were recorded as a medium-importance pressure and threat during the previous reporting period (NPWS, 2013). Pteridium was recorded within the 8240 habitat during the current reporting period but as a low-intensity impact and this difference is considered to be due to an interpretative change rather than any actual change in the occurrence of Pteridium within the habitat. (NPWS, 2019b)[78]
	Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These pressures, in conjunction with the continued fragmentation of remaining stands, lead to

[77] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8240 Limestone pavements, page 38

[78] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1008 - 1010

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[79]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal diseases, pathogens and pests (1 site).(NPWS, 2019b)[80].
	Bog woodland [91D0]	**Bad**	**K01** Abstraction from groundwater, surface water or mixed water (M) **I02** Other invasive alien species (other than species of Union concern) (M) **C05** Peat extraction (M) **A11** Burning for agriculture (M) **B09** Clear-cutting, removal of all trees (M)	**K01** Abstraction from groundwater, surface water or mixed water (M) **I02** Other invasive alien species (other than species of Union concern) (M) **C05** Peat extraction (M) **A11** Burning for agriculture (M) **B09** Clear-cutting, removal of all trees (M)	▪ A number of low-level pressures affect bog woodlands, including drainage, invasive species and burning, but none are considered significant enough at a national level to adversely affect the long-term viability of the habitat. The Overall Status is therefore Favourable with a stable trend, unchanged since the previous assessment. (NPWS, 2019a)[81]. ▪ **A09** Intensive grazing or overgrazing by livestock was listed as a low importance pressure in NPWS (2013) under the code **B06** Grazing in forests/woodland. During the current reporting period **A09** was recorded as a low-importance pressure at

[79] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

[80] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

[81] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91D0 Bog Woodland, page 40

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					three of the fourteen sites. Other pressures recorded from the fourteen monitoring sites by Daly et al. (in prep.) comprise: **I04** Problematic native species (2 sites), **A26** Agricultural activities generating diffuse pollution to surface or ground waters (1 site), **J04** Mixed source soil pollution and solid waste (excluding discharges) (1 site) and **C01** Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (1 site). **I04** and **J04** were listed as low-importance pressures in NPWS (2013) under the codes **I02** problematic native species and E03.01 disposal of household/ recreational facility waste. (NPWS, 2019b)[82].
	Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	**Inadequate**	A31 Drainage for use as agricultural land (H) B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	A31 Drainage for use as agricultural land (H) ▪ B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) F31 Other modification of hydrological conditions for residential or recreational development (H) A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) B23 Forestry activities generating pollution to surface or ground waters (H) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) C05 Peat extraction (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) F33 Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	Changes in hydrological regime, particularly reduced base flow, but also increased scour at high flows, have been demonstrated to impact significantly on populations in Ireland, alone and in combination with pollution. Hydrological change in pearl mussel catchments is largely a result of land drainage (for agriculture (A31), forestry (B27) and peat extraction (C05)), but also results from abstraction for drinking water (F33) and, in at least one catchment (Clady), impoundment for electricity generation (D02)…. F31 – Other modification of hydrological conditions for residential or recreational development – was used to cover the construction of fishery weirs in freshwater pearl mussel habitat in the Owenriff, which led to morphological changes in the habitat and severe impacts on flow….. Pollution with fine sediment and nutrients continues to impact on the species…. Agriculture is a primary source, notably land reclamation and intensification (A01, A02, A04, A05, A13, A20, A31), increased stocking densities and housing of stock, leading to the generation of slurry (A19),

[82] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, 1073-1074

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and over-grazing (A09). Code A26 for diffuse pollution was used to cover all of these agricultural sources, although with drainage of peatland and wet soils, agricultural pollution can effectively be point source. Physical alteration of river banks, including bank reinforcement (A33) continues to be a significant pressure in pearl mussel rivers and is linked to intensification of agricultural use. A30, abstractions for agriculture, is also a concern, but it has not yet been demonstrated to be more than of low importance. As with other abstraction pressures, A30 may become a more significant threat, in combination with predicted droughts owing to climate change. Direct impacts have been recorded owing to livestock (cattle) in rivers, in at least six catchments, including three priority catchments. Pollution with human waste-water (F12) is also an on-going concern, particularly from on-site systems at tourist attractions… ▪ Operation and maintenance of bridges, roads and other transport infrastructure (E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) continues to be a pressure in pearl mussel catchments. New and upgraded transport infrastructure is still a threat…(NPWS, 2019c)[83].
	Austropotamobius pallipes (White-clawed Crayfish) [1092]	**Bad**	I05 Plant and animal diseases, pathogens and pests (H)	I05 Plant and animal diseases, pathogens and pests (H) I01 Invasive alien species of Union concern (H)	▪ Crayfish plague poses the most significant threat to the species… ▪ The threat from invasive non-indigenous crayfish species (NICS) remains high. At present there is no evidence that any NICS are present in Ireland. However, should they become established it would make control of the disease extremely difficult if not impossible…

[83] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 231-323

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					▪ Whilst habitat is considered sufficient for the species, allowing it to occupy its expected range, there are some indications of impacts of watercourse management that need investigation. The unexplained die-offs such as that on Lough Owel in 2018 also need investigation (NPWS, 2019c)[84].
	Petromyzon marinus (Sea Lamprey) [1095]	**Bad**	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M)	D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (H) N03 Increases or changes in precipitation due to climate change (H) A19 Application of natural fertilisers on agricultural land (M) A20 Application of synthetic (mineral) fertilisers on agricultural land (M) A31 Drainage for use as agricultural land (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations (M) Xo Threats and pressures from outside the Member State (M) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) N02 Droughts and decreases in precipitation due to climate change (M)	▪ The sea lamprey is listed in the most recent Irish Red Data Book as Near Threatened. Barriers to upstream migration (e.g. weirs) are considered the major impediment to good conservation status for sea lamprey as these limit access to spawning beds and juvenile habitat. (NPWS, 2019a)[85]. ▪ Enrichment and nutrient pollution due to agricultural (A19, A20) and other anthropogenic activities can result in profusions of macrophytes and filamentous algae, obscuring both juvenile and spawning habitats…It is acknowledged that more effort will need to be made in tackling diffuse pollution in Irish rivers… ▪ Increases in river discharge can exacerbate the already high rate of natural egg wash-out, both from within nests and from surrounding spawning gravels.. (NPWS, 2019c)[86]
	Lampetra planeri (Brook Lamprey) [1096]	**Favourable**	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M)	**A19** Application of natural fertilisers on agricultural land (M) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31** Drainage for use as agricultural land (M) **B09** Clear-cutting, removal of all trees (M) **D02** Hydropower (dams, weirs, run-off-the-river), including infrastructure (M)	▪ For brook lamprey in Ireland there are extensive areas of suitable habitat and no significant pressures impacting this species. The Overall Status is therefore assessed as Favourable (NPWS, 2019a)[87] ▪ Diffuse and point source pollution (**A19, A20,** F11, F12) may be having localised impacts on populations of *L. planeri*…Activities that lead to hydrological

[84] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 253-254

[85] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1095 Sea Lamprey, page 52

[86] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 289-290

[87] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1096 Brook Lamprey, page 53

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F11 Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater	**F11** Pollution to surface or ground water due to urban run-offs (M) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or groundwater **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	changes and canalisation of river channels (A31) will impact on habitat availability for L. planeri in certain locations… ▪ All pressures and threats included here are ranked as having medium-level impacts on the long-term viability of *L. planeri* as impacts are generally localised (NPWS, 2019c)[88]
	Salmo salar (Salmon) [1106]	**Favourable**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M) G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	▪ The survival of salmon during the marine phase of its lifecycle has been identified as the key determinant of trends in population size in natal rivers (NPWS, 2019a)[89]. ▪ The key pressures considered to pose threats / challenges to Atlantic salmon include: Water quality from (a) agricultural production, domestic waste-water treatment systems and forestry which are key sources of both rural diffuse and point-source pollution; and (b) urban waste-water pressures which are a source of point-source pollution. Hydromorphological threats relating to physical modification or damage to habitat and natural river/lake processes, and changes functions caused by channelisation, drainage, dams, weirs, barriers and locks, overgrazing, embankments and culverts. Temperature changes related to climate change may shift the phenologies of anadromous fishes. The consequences of such changes are unknown, but the change has the potential to disrupt established ecological relationships at various life history stages.

[88] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 307-308

[89] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1106 Atlantic salmon, page 55

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Future warming may intensify the severity of floods and droughts, lessening the frequency of successful annual reproduction for anadromous fishes. Certain invasive alien species have the potential to negatively impact wild salmon habitat in the freshwater or estuarine environment in Ireland through both direct and indirect means, although documented knowledge is limited. Illegal catches, both at sea and within rivers remain a concern and an impediment to stock recovery Over-reporting of catches which can affect population estimates and negatively impact stock assessments and their sustainable management. Impacts of salmon aquaculture on native wild stocks from disease and escapes. (NPWS, 2019c)[90] ▪
	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	**Inadequate**	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving)) (M)	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M) **F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M)	▪ Lesser horseshoe bats are faithful to their roosts and will return to the same site each year. Summer roosts are often in the attics of old or derelict buildings.. (NPWS, 2019a)[91]. ▪ Impacts at roosts and to foraging and commuting habitats have been identified as most important for this species. Alterations at buildings used by bats, including renovations, disturbance and lighting, as well as natural flooding at caves, are all known to have caused population declines and in some cases roost abandonment. Predation by cats and pine martens in roosts can also pose a threat. Alterations to commuting routes (e.g. hedgerow clearances) and the felling of foraging habitats can also have significant local impacts. The impact of anti-parasitic drugs

[90] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 394-395

[91] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1303 LHS Bat, page 57

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			L06 Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	**L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	on dung fauna, an important component of this bat's diet in winter, is also a concern. These threats were identified in the last report and are also expected to continue into the future (NPWS, 2019c)[92]
	Lutra lutra (Otter) [1355]	**Favourable**	No pressures	No threats	▪ The main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear)[93].
	Najas flexilis (Slender Naiad) [1833]	**Inadequate**	**K04** Modification of hydrological flow (H **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) **C05** Peat extraction (M)	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) **C05** Peat extraction (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	▪ The species is threatened by enrichment (eutrophication), acidification and peatland damage. (NPWS, 2019a)[94]. ▪ Golf courses were present adjacent to at least two Najas flexilis lakes, therefore F16 'Other residential and recreational activities and structures generating diffuse pollution to surface or ground waters' can be considered a pressure and threat of low importance. There are abstractions from at least three of the lakes (Knocka, Shannagh and Ballynakill), however there is no evidence that these are currently impacting on the species. It is possible, however, that abstractions may be a threat, in combination with predicted droughts owing to climate change (NPWS, 2019c)[95].
	Hamatocaulis vernicosus (Slender Green Feather-moss) [6216]	**Favourable**	Xxp No pressures	Xxt No threats	▪ There are also no significant pressures currently impacting the species. (NPWS, 2019a)[96]. ▪ **A10** Extensive grazing or undergrazing by livestock was the most frequently recorded activity at the sites, usually affecting large

[92] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 450

[93] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1366 Otter, page 62

[94] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1833 Slender Naiad, page 45

[95] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 52 - 53

[96] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6216 Slender Green Feather-Moss, page 45

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					areas where it occurred…Climate change has not been added as an impact but it is likely to affect the altitudinal and latitudinal range of H. vernicosus in Ireland in decades to come if average temperatures continue to rise (NPWS, 2019c)[97].
East Burren Complex SAC 001926	East Burren Complex SAC 001926. Site Synopsis NPWS (2016) *"Most of the site is grazed by cattle and sheep, and in some areas, particularly the uplands, by feral goats. Slieve Carran is a Statutory Nature Reserve, while some 750 square km within the region of Mullaghmore makes up the Burren National Park. Clearance and intensification of agriculture has caused damage to some parts of the site. This threatens the heath and scrub communities and may cause eutrophication (nutrient enrichment) of the lakelands to the east. Drainage and land reclamation Version date: 9.2.2016 5 of 5 001926_Rev16.Docx have occurred in places around the edges of wetlands, while some marginal fen areas have been afforested. Areas of agriculturally-improved land have been included within the site in order to protect the hydrology and nutrient status of the wetland system"*				
	Murphy, S. & Fernandez, F. (2009) The development of methodologies to assess the conservation status of limestone pavement and associated habitats in Ireland. Irish Wildlife Manuals, No. 43. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland. *"Quarrying and removal of pavement were identified as the most threatening activity affecting exposed limestone pavement (8240)."* *"Damaging operations: Several damaging operations and possible threats were listed on the field card: rock removal, rock displacement, dumping, gryke filling, trampling, scrub removal, bracken and scrub encroachment and invasive species."* *"Although invasive species (Cotoneaster microphyllus) were reported as negative indicators in some of the Survey Units, quarrying was the most seriously threatening activity to this Annex I habitat."*				
	Cooper, F., Stone, R.E., McEvoy, P., Wilkins, T. & Reid, N. (2012) *The conservation status of juniper formations in Ireland*. Irish Wildlife Manuals, No. 63 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.				
	"Intensive grazing pressure significantly reduced recruitment success presumably because small seedlings are more vulnerable to domestic stock than mature shrubs." *"The principal drivers of juniper decline….* *1 . Inappropriate management by over-grazing* *2. Abandonment of grazing regimes, or low grazing pressure* *3. Lack of suitable soil conditions preventing seedling establishment* *4. Competition and shading by invasive native and non-native species (the former including natural successional change)* *5. Low levels of seed viability* *6. Population fragmentation resulting in reduced pollination (poor distribution or isolation of sexes)* *7. A male-skewed sex ratio resulting in low reproductive success* *8. Soil nutrient enrichment and aerial nitrogen deposition* *9. Climate change* *10. Habitat destruction "*			*"Main pressures…[of habitat code 5130]* *A03.01 Intensive mowing or intensification L* *A04.01.01 Intensive cattle grazing L* *A04.01.02 Intensive sheep grazing H* *A04.01.05 Intensive mixed animal grazing M* *A04.02.01 Non-intensive cattle grazing M* *A04.02.04 Non-intensive horse grazing L* *A04.02.05 Non-intensive mixed animal grazing H* *A04.03 Abandonment of pastoral systems, lack of grazing M* *C01 Mining and quarrying M* *E01.03 Dispersed habitation M* *E02.01 Factory L* *G05.01 Trampling, overuse H* *I01 Invasive non-native species M* *I02 Problematic native species H* *J01.01 Burning L* *K01.01 Erosion L* *K01.03 Drying out L* *K04.01 Competition (flora) L*	

[97] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 71 - 72

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				K04.05 Damage by herbivores (natural) H *M01.03 Flooding and rising precipitation L"*	
	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **F13** Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (M) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (M) **A31** Drainage for use as agricultural land (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M) **I02** Other invasive alien species (other than species of Union concern) (M)	▪ The hard-water lake habitat is under significant pressure from eutrophication, the primary sources of nutrient and organic pollution being agriculture and municipal and industrial wastewaters. Movement of pollutants, especially phosphorus, through groundwater is a significant concern. (NPWS, 2019a)[98].
	Turloughs [3180]	**Inadequate**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M) **A31** Drainage for use as agricultural land (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A09** Intensive grazing or overgrazing by livestock (M) **A31** Drainage for use as agricultural land (M)	▪ These sites are considered to be more marginal examples of the habitat and are likely to be more impacted than the sample assessed in 2013. All pressures are considered to be threats as there are no significant measures planned to counteract these impacts in the immediate future. (NPWS, 2019b)[99]. ▪ Because of on-going pressures related to drainage, groundwater pollution and ecologically unsuitable grazing, the Overall Status has been assessed as Inadequate

[98] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3140 Hard-Water Lake Habitat, page 24

[99] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 473

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					and stable, unchanged since the 2013 assessment. (NPWS, 2019a)[100].
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M) K01 Abstraction from groundwater, surface water or mixed water (M)	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[101]. ▪ Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water bodies were hydromorphology at 329 (28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a

[100] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3180 Turloughs, page 25

[101] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of flowing waters, page 26

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					result, K01 has also been listed as a pressure (NPWS, 2019b)[102].
	Alpine and Boreal heaths [4060]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A27** Agricultural activities generating air pollution (H) **F07** Sports, tourism and leisure activities (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Sheep grazing is widespread in uplands where this habitat occurs and is a problem for the habitat where grazing levels are high. Hill walking is often concentrated on the summits and ridges where this habitat is found, and can cause erosion and damage to the habitat. Agricultural activities that cause air pollution and consequently nitrogen deposition are also considered to cause significant impacts. Climate change is recognised as a potential future threat to the habitat in the future, particularly in the context of rising temperatures and decreases in precipitation. (NPWS, 2019a)[103]. ▪ D01 (Wind, wave and tidal power) was recorded as a low importance pressure in the previous reporting period. A review of Irish wind farm developments has indicated that 40.3% of wind farms are located within 2 km of 4060 habitat … D01 is retained as a low-importance pressure for this reporting period. A (NPWS, 2019b)[104]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), I02 (Other invasive alien species (other than species of Union concern)), I04 (Problematic native species) and J03 (Mixed source air pollution, airborne pollutants), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. (NPWS, 2019b)[105].

[102] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[103] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4060 Alpine And Subalpine Heath, page 28

[104] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 596

[105] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 597

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					▪ B01 (Conversion to forest from other land uses, or afforestation (excluding drainage)), E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)) and M05 (Collapse of terrain, landslide), recorded in the current reporting period only, were assessed as low-importance pressures. Approximately 0.01% of the known national 4060 habitat area (0.02 km^2) is either adjacent to or has some evidence of new forestry (i.e. planted within the current reporting period) within it (using PrivateForests2016.shp in conjunction with the 4060 distribution polygon shapefile). It is assessed as a low-importance pressure for this reporting period due to the relatively small area of known 4060 habitat impacted, but actual areas impacted are likely to be higher, particularly outside of designated sites. E01 and M05 were assessed as low-importance pressures due to the fact that they occurred just once each, both with a small footprint on the 4060 habitat. (NPWS, 2019b)[106].
	Juniperus communis formations on heaths or calcareous grasslands [5130]	**Favourable**	Xxp No pressures	Xxp No pressures	▪ No pressures were identified as being of high or medium importance nationally. Pressures that affected relatively large areas of the sites where they occurred, but which occurred at a low frequency across the sites surveyed, include **A09** Intensive grazing or overgrazing by livestock and **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing). In most cases where grazing was recorded, it was regarded as either beneficial or not damaging to the habitat. Erosion was recorded at several sites but was not listed as a pressure nationally. Pressures that were high-impact but which affected only a small area of the habitat at a local level include **A05** Removal of small landscape features for agricultural land parcel

[106] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 597

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					consolidation (in the form of juniper scrub removal), **A11** Burning for agriculture, **I02** Other invasive alien species (other than species of Union concern), and **F01** Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions). One formation was reduced in area by road construction, so the pressure **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) operated locally but the area affected was of a low significance nationally.2019b)[107]. ▪ Local pressures were noted at some juniper stands, including overgrazing, erosion and small areas of juniper scrub removal, but none of the impacts were considered to be significant or to impact on the long-term viability of the habitat at the national level. Short periods of disturbance may even be beneficial by promoting regeneration (NPWS, 2019a)[108].
	Calaminarian grasslands of the *Violetalia calaminariae* [6130]	**Inadequate**	**L01** Abiotic natural processes (H) **L02** Natural succession resulting in species composition change (H) **F07** Sports, tourism and leisure activities (M)	**L01** Abiotic natural processes (H) **L02** Natural succession resulting in species composition change (H) **F07** Sports, tourism and leisure activities (M)	▪ Pressures are associated with abiotic natural processes (leaching of metals) and succession, as well as impacts from recreational activities (walking/hiking). (NPWS, 2019a)[109]. ▪ The main pressures acting on Calaminarian grassland, recorded from 29 sites surveyed in 2018, were L01 Abiotic natural processes (17 sites), L02 Natural succession (14 sites), F07 Sports, tourism and leisure activities (13 sites), A10 Extensive grazing (11 sites) and F09 Deposition of waste (10 sites). Impact intensity ranged from low to

[107] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 616

[108] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 5130 Juniper Scrub, page 28

[109] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6130 Calaminarian Grassland, page 29

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					high for these five pressures. (NPWS, 2019b)[110]. ▪ Other negative pressures recorded include dumping of waste, removal and excavation of spoil and pollution from agricultural and urban sources. Urban pollution is a significant and pressing threat at Knockmahon Village [approx. 10km SW of Waterford City], an important site that supports populations of four rare metallophyte species, and is also showing signs of encroachment by gorse scrub. (NPWS, 2019b)[111].
	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	**A02** Conversion from one type of agricultural land use to another (H) **A10** Extensive grazing or undergrazing by livestock (H) **C01** Extraction of minerals (H) **A09** Intensive grazing or overgrazing by livestock (M) **I02** Other invasive alien species(M) **I04** Problematic native species (M)	▪ Despite a number of conservation-focused farming schemes which bring about localised and regional improvements, the Overall Status is assessed as Bad with a deteriorating trend due to on-going habitat losses mainly associated with agricultural intensification causing loss of species-rich communities, or abandonment of farmland resulting in succession to scrub. (NPWS, 2019a)[112]. ▪ The problematic native species listed under I04 was *Pteridium aquilinum* (Bracken) and the most commonly recorded invasive species listed under I02 was *Cotoneaster integrifolius*. (NPWS, 2019b)[113].
	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A19** Application of natural fertilisers on agricultural land (H) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M)	**A02** Conversion from one type of agricultural land use to another (H) **A19** Application of natural fertilisers on agricultural land (H) **A20** Application of synthetic (mineral) fertilisers on agricultural land (M)	▪ The Overall Status is assessed as Bad due to on-going area losses associated with agricultural intensification (fertiliser application), changes in agricultural practices, and because of significant historical losses in the habitat since the

[110] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 631

[111] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 632

[112] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6210 Calcareous Grassland (*Orchid-rich), page 29

[113] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 648

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A06 Abandonment of grassland management (e.g. cessation of grazing or of mowing) (M) **A14** Livestock farming (without grazing) (M)	**A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (M) **A14** Livestock farming (without grazing) (M)	Habitats Directive came into force. (NPWS, 2019a)[114]. ▪ Further research on the impacts of climate change on this habitat is required. (NPWS, 2019b)[115].
	Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [7210]	**Inadequate**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K01** Abstraction from groundwater, surface water or mixed water (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **J01** Mixed source pollution to surface and ground waters (M) **C05** Peat extraction (M)	▪ 2013 is due to improved knowledge/more accurate data and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[116] ▪ The main pressures (and mostly regarded as threats also) facing Cladium fen in Ireland, based on the data available, are 1) human induced changes in hydraulic conditions such as current and historic drainage, and 2) changes in species composition as a result of natural succession due to lack of grazing. Non-intensive grazing was recorded as a positive impact. Pollution of ground and surface waters was not recorded during the limited survey work in the current reporting period. However, it is considered highly likely that such pollution is a moderate negative pressure on this habitat and that its omission is as a result of the small survey sample size. Climate change has not been added as an impact but it is likely to affect this habitat in Ireland in decades to come (e.g. warmer temperatures and changes to rainfall and flood events may increase drying out and vegetation succession). In 2013, water abstraction, reclamation and pollution were deemed to be the pressures with the highest impact, and also the biggest threats (NPWS, 2019b)[117]

[114] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6510 Lowland Hay Meadows, page 31

[115] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 724

[116] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Cladium fens, page 36

[117] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 9867 - 868

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Petrifying springs with tufa formation (Cratoneurion) [7220]	**Inadequate**	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) **E01** Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (H) **F07** Sports, tourism and leisure activities (M) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) K02 Drainage (H) **K04** Modification of hydrological flow (H)	**A06** Abandonment of grassland management (e.g. cessation of grazing of mowing) (M) **A10** Extensive grazing or undergrazing by livestock (M) E01 Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (M) **F07** Sports, tourism and leisure activities (M) **H08** Other human intrusions and disturbance not mentioned above (H) **J01** Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) **K02** Drainage (H) **L02** Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (M)	▪ The highest impact was deemed to be from 'Landfill, land reclamation and drying out, general (**J02.01**)'. This ties in with **E01**, **H08** and **K02** identified in the current assessment. Other important impacts included those relating to abandonment, water pollution, trampling/overuse/ intensive grazing. All of these have strong parallels in the current assessment (e.g. **J01**, **A06**, **H08**). Climate change has not been included as an impact but it is likely to affect this habitat in Ireland in decades to come (NPWS, 2019b)[118].
	Alkaline fens [7230]	**Bad**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (M)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (M) **K04** Modification of hydrological flow (M) **J01** Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **N02** Droughts and decrease in precipitation due to climate change (M) **N03** Increases or changes in precipitation due to climate change (M)	▪ The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution (NPWS, 2019a)[119]. ▪ The main pressures (and also threats) facing alkaline fens in Ireland, based on the data available, are abandonment (and consequent succession), overgrazing, drainage and pollution. Climate change is likely to affect this habitat due to warmer temperatures and changes to rainfall and flood events, which may increase drying out and vegetation succession. In 2013, many similar threats were identified, but land reclamation and invasion by non-native species were both deemed to be significant pressures (and threats). (NPWS, 2019b)[120]
	Limestone pavements [8240]	**Inadequate**	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M)	**A01** Conversion into agricultural land (H) **A10** Extensive grazing or undergrazing by livestock (M) **C01** Extraction of minerals (M)	▪ The Overall Status is assessed as Inadequate due to continuing area losses associated with conversion to agricultural land and housing construction, as well as

[118] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 886

[119] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Alkaline fens, page 36

[120] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 907 - 908

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F01 Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	**F01** Conversion from other land uses to housing (M) **I02** Other invasive alien species (M)	scrub encroachment caused by undergrazing. (NPWS, 2019a)[121]. ▪ It should be noted that the pressure of building housing (**F01**) on the 8240 habitat was not recorded during the previous reporting period (NPWS, 2013), but during the 8240 habitat area review instances of housing being built on areas of limestone pavement were recorded at a high enough frequency for the pressure to be ranked as medium importance nationally. Conversion from the 8240 habitat to commercial or industrial areas **(F03**) was also recorded during the 8240 habitat area review but at a much lower frequency and was therefore assessed as a low-importance pressure nationally and not listed. Problematic native species (**I04**), such as Pteridium aquilinum, were recorded as a medium-importance pressure and threat during the previous reporting period (NPWS, 2013). Pteridium was recorded within the 8240 habitat during the current reporting period but as a low-intensity impact and this difference is considered to be due to an interpretative change rather than any actual change in the occurrence of Pteridium within the habitat. (NPWS, 2019b)[122]
	Caves not open to the public [8310]	**Favourable**	Xxp No pressures	Xxt No threats	▪ Although some threats have been identified, some of which might have appreciable localised effects, none is considered likely to have a significant impact on this habitat in Ireland(NPWS, 2019a)[123]. ▪ Although individual caves may be subject to disturbance (e.g. dumping, vandalism) and winter flooding can lead to some mortalities of bats in certain caves, no significant

[121] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8240 Limestone pavements, page 38

[122] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1008 - 1010

[123] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 8310 Caves, page 38

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					pressures have been identified for this habitat nationally. (NPWS, 2019b)[124]
	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	**Bad**	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M)	I02 Other invasive alien species (other than species of Union concern) (H) I04 Problematic native species (M) B09 Clear-cutting, removal of all trees (M) I05 Plant and animal diseases, pathogens and pests (M)	▪ A number of pressures affect this habitat in Ireland, the most serious being invasive species…small area losses due to clear-fellling have also occurred. As a result the Overall Status is Bad and the trend is declining. This poorer trend since the previous assessment is mainly due to the availability of more accurate data, and the decline is considered to have been on-going since before the last assessment (NPWS, 2019a)[125]. ▪ J04 Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance pressure in NPWS (2013) under the code H05.01 Garbage and solid waste. During the current reporting period, it is a low-importance pressure…. A09 Intensive grazing or overgrazing by livestock was listed as a low-importance pressure in NPWS (2013) under the code B06 Grazing in forests/ woodland. During the current reporting period, it is a low-importance pressure…It should be noted that the impact category A09 as reported by Daly et al. (in prep.) is primarily overgrazing by deer (not livestock). Other pressures recorded from the 40 monitoring sites by Daly et al. (in prep.) comprise: E01 Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (three sites), L04 Natural processes of eutrophication or acidification (one site), F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (one site), B03 Replanting with or introducing non-native or non-typical species (including new species and GMOs)

[124] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1023

[125] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91E0 Alluvial Woodland, page 40

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					(one site), B21 Use of physical plant protection in forestry, excluding tree layer thinning (one site), B12 Thinning of tree layer (one site), B27 Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (one site) and K01 Abstraction from groundwater, surface water or mixed water (one site) (NPWS, 2019b)[126].
	Euphydryas aurinia (Marsh Fritillary) [1065]	**Inadequate**	**A01** Conversion into agricultural land (excluding drainage and burning) (H) **A07** Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) **A10** Extensive grazing or undergrazing by livestock (M) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	**A01** Conversion into agricultural land (excluding drainage and burning) (H) **A07** Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) **A10** Extensive grazing or undergrazing by livestock (M) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	▪ Sites are often on marginal land in upland areas and the edges of wetlands and peatlands which are subject to pressures from agricultural conversion and afforestation. There are also issues where vegetation becomes unsuitable through natural succession. Many management practices create and maintain the short, generally tussocky vegetation that the species requires, including grazing, natural exposure on western islands and coastal headlands, wet and low-nutrient ground conditions, and disturbance in the recent past (for example burning or peat extraction). (NPWS, 2019a)[127]. ▪ However there are also issues in wetland sites, particularly where management ceases and vegetation becomes unsuitable through natural succession (NPWS, 2019c)[128].
	Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	**Inadequate**	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M)	**A05** Removal of small landscape features for agricultural land parcel consolidation (M) **A14** Livestock farming (without grazing) [impact of antihelminthic dosing on dung fauna] (M) **B09** Clear-cutting, removal of all trees (M)	▪ Lesser horseshoe bats are faithful to their roosts and will return to the same site each year. Summer roosts are often in the attics of old or derelict buildings.. (NPWS, 2019a)[129].

[126] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1097-1098

[127] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1106 Atlantic salmon, page 55

[128] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 269-270

[129] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1303 LHS Bat, page 57

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			F01 Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving)) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	**F01** Conversion from other land uses to housing, settlement or recreational areas (M) **F02** Construction or modification (e.g. of housing and settlements) in existing urban or recreational areas (M) **F24** Residential or recreational activities and structures generating noise, light, heat or other forms of pollution (M) **H08** Other human intrusions and disturbance not mentioned above (Dumping, accidental and deliberate disturbance of bat roosts (e.g. caving) (M) **L06** Interspecific relations (competition, predation, parasitism, pathogens) (M) **M08** Flooding (natural processes) (M)	▪ Impacts at roosts and to foraging and commuting habitats have been identified as most important for this species. Alterations at buildings used by bats, including renovations, disturbance and lighting, as well as natural flooding at caves, are all known to have caused population declines and in some cases roost abandonment. Predation by cats and pine martens in roosts can also pose a threat. Alterations to commuting routes (e.g. hedgerow clearances) and the felling of foraging habitats can also have significant local impacts. The impact of anti-parasitic drugs on dung fauna, an important component of this bat's diet in winter, is also a concern. These threats were identified in the last report and are also expected to continue into the future (NPWS, 2019c)[130]
	Lutra lutra (Otter) [1355]	**Favourable**	No pressures	No threats	▪ The main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear)[131].
Connemara Bog Complex SAC 002034	NPWS Connemara Bog Complex SAC (site code 2034)	*"Acidification is also considered a threat to the species* [Najas flexilis] *(Roden, 2004; Wingfield et al., 2004)."*			
	Conservation objectives supporting documentNajas flexilis (Willd.) Rostk. & W.L.E. Schmidt. Version 1 October 2015	*"Competition from both native and non-native species is a potential threat to Najas flexilis. Wingfield et al. (2004) noted competition by the native species Myriophyllum alterniflorum and Chara spp. as possibly impacting on Najas flexilis in a Scottish Loch. Competition from native species could be part of a natural lake-succession or, more likely, promoted by environmental disturbances such as eutrophication. Eutrophication will inevitably convey an advantage on invasive non-native and native perennial species. Wingfield et al. (2004) observed that competition is not always a problem, but is more likely to be where nutrients and light promote excessive growth. The issue of competition from both native and non-native species is discussed further in O Connor (2013)."* *"Threats: No obvious threats"* *"Upstream drainage leads to more rapid run-off and is associated with other significant pressures, notably the degradation of peatlands, which causes the release of organic acids, ammonia and other organic matter, and the direct transport of nutrients and other pollutants to lakes."* *"Enrichment of lake water and sediments with phosphorus and nitrogen (eutrophication) is considered a significant pressure on the species (Preston and Croft, 2001; Roden, 2004, 2007; Wingfield, et al., 2004)."*			
	Cummins, S., Bleasdale, A., Douglas, C., Newton, S., O'Halloran, J. & Wilson, H.J. (2010) The status of Red Grouse	*"Given the estimated decline in Red Grouse extent in the Republic of Ireland (Gibbons et al., 1993), it is of concern that important areas of grouse habitat continue to be lost or damaged by activities such as peat extraction, afforestation, drainage, conversion to grassland through blanket burning, overgrazing (particularly by sheep), and development pressures associated with the erection of wind turbines, communications masts and associated infrastructures.*			

NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 450

[131] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1355 Otter, page 62

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	in Ireland and the effects of land use, habitat and habitat quality on their distribution. Irish Wildlife Manuals, No. 50. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.	*The patchiness of much of the remaining grouse habitat in Ireland is unlikely to benefit populations and may lead to lower average densities of grouse (Watson & Moss, 2008)."* *"The percentage cover of bushy lichens was greater at stations with little or no damage compared to those that indicated more severe grazing pressures."* *"Consequently Red Grouse populations are more restricted to mountain blanket bog (>300m a.s.l.) in these regions, particularly given the other pressures from agriculture and development in more lowland areas."* *"Current pressures include overstocking, peat extraction, drainage, burning, extensive forestry plantations (fragment grouse populations and act as refuges for predators like foxes and hooded crows) and infrastructural developments (new access roads to service windfarms allow vehicular access and may increase disturbance) with which have negative impacts either through direct loss of once suitable habitat or by leading to inferior habitat quality for grouse populations."*			
	Connemara Bog Complex SAC 002034. Site Synopsis NPWS 2015	*The main damaging operations and threats in the Connemara Bog Complex are peat cutting, over-grazing and afforestation*			
	Coastal lagoons [1150]	**Bad**	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M)	**J02** Mixed source marine water pollution (marine and coastal) (H) **K04** Modification of hydrological flow (H) **K02** Drainage (H) **L01** Abiotic natural processes (e.g. Erosion, silting up, drying out, submersion, salinization (M) **L03** Accumulation of organic material (M) **C12** Extraction activities generating marine pollution (M) N04 Sea-level and wave exposure changes due to climate change	▪ Several high-ranking pressures were identified acting on this habitat: eutrophication, modification of hydrological flow, and drainage. Other pressures noted include erosion and silting up, accumulation of seaweed, and sedimentation from peat related to turf cutting and/or forestry. The Overall Status for Lagoons is assessed as Bad, unchanged since the 2013 assessment. However, the overall trend has changed from stable to deteriorating, a genuine decline since 2013 (NPWS, 2019a)[132]. ▪ Climate change has not been added as a current pressure but it is likely to severely impact lagoons in the future in the form of higher sea levels linked to increased storm surges The 2016-2017 survey classified 39 sites (68% of the total habitat area) in terms of water quality, based on measurements of water chemistry, phytoplankton and benthic vegetation. This work showed that 22 sites (20.98% of the total habitat area) were rated poor or bad due to eutrophication. Drainage is an issue in two sites..

[132] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1150 Lagoons, page 13

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					Sedimentation from peaty material from the catchment is reducing the quality of a number of lagoons.. ..K04 Modification of hydrological flow (H) impacts 65.9% of the lagoon habitat surveyed between 2016 and 2017 (44.8% of the total habitat area). K02 Drainage (H) impacts 17.2% of the total habitat…(NPWS, 2019b)[133]. ▪
	Reefs [1170]	**Inadequate**	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	**G01** Marine fishing and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (H) **G03** Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (H)	▪ The main pressures on reefs come from fishing methods that damage the seafloor. As a result the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys. (NPWS, 2019a)[134]. ▪ The invasive alien species *Sargassum muticum* has been noted as an increased pressure on intertidal reef areas where it has become established in rock pools within this habitat. The collection of marine algae, particularly *Ascophyllum nodosum*, on a commercial scale has been carried out on intertidal reefs within Irish SACs for many years and continues to have a medium impact on this habitat. The mechanical harvesting of subtidal kelp beds is now identified as a potential future threat. The use of nets for the capture of commercial species has been identified as a significant threat to subtidal reef habitat (Scally et al., in prep.). The use of towed and static gear on reef habitats for the capture of fish and crustaceans is common throughout the majority of reef habitat. Offshore reef is particularly vulnerable to bottom towed gear

[133] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 54-55

[134] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1170 Reefs, page 14

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					which will result in what must be considered as permanent loss to the keystone communities there, given the extremely slow-growing nature of these ecosystems (NPWS, 2019b)[135].
	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]	**Bad**	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) **A31** Drainage for use as agricultural land (H) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	**A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **B23** Forestry activities generating pollution to surface or ground waters (H) **C05** Peat extraction (H) A31 Drainage for use as agricultural land (H) **B27** Modification of hydrological conditions, or physical alteration of water bodies and drainage for forestry (including dams) (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M)	▪ …is under significant pressure from eutrophication, and from drainage and other damage to peatland. (NPWS, 2019a)[136]. ▪ Damage to peatland can result in hydrological changes in lakes, increased organic matter, water colour and turbidity, changes in sediment characteristics, acidification and enrichment. (NPWS, 2019a)[137]. ▪ Pollution with dissolved and particulate organic matter and nutrients, as well as fine sediment and increased water colour, are significant concerns for habitat 3110. (NPWS, 2019b)[138]. ▪ F12 covers discharges from both urban waste-water (UWW) treatment plants (sewered) and on-site systems (unsewered). Onsite systems are more common pressures in the catchments of 3110 lakes. (NPWS, 2019b)[139]. ▪ Abstractions for drinking water (F33) or other purposes (F34, A30, C14) are considered to be pressures of low importance, as they impact on relatively few 3110 lakes. It is possible, however, that abstractions may be a more significant threat, in combination with predicted

[135] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 87

[136] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

[137] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3110 Oligotrophic Isoetid Lake Habitat, page 23

[138] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 367

[139] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 368

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					droughts owing to climate change. (NPWS, 2019b)[140].
	Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or Isoeto-Nanojuncetea [3130]	**Inadequate**	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) C05 Peat extraction (M)	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) C05 Peat extraction (M)	▪ It is under significant pressure from drainage, agriculture, peat extraction, forestry and wastewaters(NPWS, 2019a)[141]. ▪ Turf cutting (**C05**) was noted as a pressure at 4 catchments (8%). Golf courses were present adjacent to at least two 3130 lakes, therefore **F16** 'Other residential and recreational activities and structures generating diffuse pollution to surface or ground waters' can be considered a pressure and threat of low importance. (NPWS, 2019b)[142].
	Natural dystrophic lakes and ponds (Acid oligotrophic lake habitat) [3160]	**Inadequate**			▪ On-going damage to peatland results in hydrological changes in lakes and ponds with the habitat, as well as increased sedimentation, colour, turbidity, organic material and ammonia. Fertilisation of forests can contribute to enrichment of the habitat. The Overall Status of the habitat is Inadequate, unchanged since the 2013 assessment. The trend has changed from deteriorating to stable. This change is due to use of a different assessment method and the trend is considered to have been stable since before the last assessment (NPWS, 2019a)[143]. ▪ Dystrophic lakes and ponds can be destroyed and damaged by drainage. While there is no evidence of new drainage directly impacting on the habitat during the

[140] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Sumary Habitat assessments*. Section 7.3 Additional Information, page 368

[141] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3130 Mixed *Najas flexilis* Lake Habitat, page 23

[142] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 389

[143] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3160 Acid Oligotrophic Lake Habitat, page 25

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					reporting period, pre-existing drains are considered likely to have on-going significant impacts (C05, B27, A31). The habitat is also significantly impacted by indirect pressures in the upstream catchment. Drainage (C05, B27, A31) can cause hydrological changes in dystrophic lakes and ponds, while the resultant mineralization of peat increases losses of ammonia and dissolved and particulate organic fractions (C05, B23, A26). These pollutants in turn cause increased colour and turbidity, increased sedimentation and enrichment of dystrophic lakes and ponds. Enrichment in these instances is through increased biomass of the bacteria and fungi that can utilise organic matter, as well as of primary producers. The loss of organic acids from drained and degraded peatland has also been demonstrated to result in acid episodes is Irish streams; however, there is less evidence for acidification of lakes and ponds. Conifer forest on peatland results in high pollutant loads (B23), owing to the practices of fertilising crops (B19). Direct loss of dissolved nutrients can occur during fertilisation (B23). Significant losses of both organic matter and nutrients occur following tree-felling (B09, B12), where slow decomposition of conifer needles, branches and roots leads to significant losses of organic matter and, ultimately, nutrients (B23). Pollution with dissolved and particulate organic matter, as well as fine sediment (A26), can also arise from agriculture through overgrazing of peatland (A09), as well as burning (A11). Pollution (D08) also results from drainage and disturbance of peatland for wind farm development (D01). Owing to their likely continuation, all pressures were also listed as threats. No genuine changes in pressures or threats were identified. Both the reporting form and Article 17 pressures and threats list have changed since Article 17 2013. Climate change (predicted droughts (N02), increased rainfall

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					intensity/storm events (N03) and increased temperatures (N01)) has the potential to exacerbate all of the listed pressures and may already be having an impact on the habitat. It has not been included, however, as it has not been formally documented as impacting on dystrophic lakes and ponds. Warmer temperatures and greater seasonal variations in rainfall (droughts and floods) are likely to increase the decomposition of damaged peatlands and the losses of organic matter and ammonia, further increasing enrichment, sedimentation and acidification pressures. In addition, increased rainfall/storm events would increase direct losses of chemical fertilisers. Acid episodes are also likely to increase, as they are related to rainfall events in Irish rivers (NPWS, 2019b)[144].
	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	**Inadequate**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) A25 Agricultural activities generating point source pollution to surface or ground waters (H) K04 Modification of hydrological flow (H) K05 Physical alteration of water bodies (H) F12 Discharge of urban waste 489 3260 Vegetation of flowing waters water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) B23 Forestry activities generating pollution to surface or ground waters (M) F11 Pollution to surface or ground water due to urban run-offs (M) C05 Peat extraction (M) F13 Plants, contaminated or abandoned industrial sites generating pollution to surface or ground water (M)	▪ The main problems for river habitats in Ireland are damage through hydrological and morphological change, eutrophication and other water pollution. The EPA continues to highlight the decline in high quality rivers. While not all variants of the river habitat require low nutrient conditions, this trend is a significant concern. Agriculture and municipal and industrial discharges are the most significant sources of nutrient and organic pollution. The Overall Status of the habitat is Inadequate and deteriorating, unchanged since the 2013 assessment NPWS, 2019a)[145]. ▪ Agriculture was identified as a significant pressure at 629 river water bodies, or 53% of 'at risk' rivers Pressure codes A25 and A26 were used to cover agricultural pressures. The other significant pressures identified as impacting on the 'at risk' river water bodies were hydromorphology at 329

[144] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 453

[143] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 3260 Vegetation of flowing waters, page 26

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			K01 Abstraction from groundwater, surface water or mixed water (M)	K01 Abstraction from groundwater, surface water or mixed water (M)	(28%) river water bodies (codes K04 and K05 were used), urban waste-water (F12) at 252 (21%), forestry (B23) at 215 (18%), domestic waste-water (F12) at 137 (12%), urban run-off (F11) at 126 (11%), peat extraction (C05) at 115 (10%) and industry (F13) at 78 (7%) Abstractions from 137 river water bodies have been identified for further assessment to determine if they are having a significant impact. It is also possible that abstractions may become a more significant threat, 490 3260 Vegetation of flowing waters in combination with predicted droughts owing to climate change. As a result, K01 has also been listed as a pressure (NPWS, 2019b)[146]. ▪
	Northern Atlantic wet heaths with *Erica tetralix* [4010]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A27** Agricultural activities generating air pollution (H) **D01** Wind, wave and tidal power, including infrastructure (M) **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)) (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A27** Agricultural activities generating air pollution (H) **D01** Wind, wave and tidal power, including infrastructure (M) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ Uncontrolled burning [A11 (Burning for agriculture)] can be particularly damaging to the bryophyte layer within 4010 habitat, and can result in peat erosion, desiccation of the habitat and loss of dwarf shrubs which can result in succession to grassland habitats (Hampton, 2008). (NPWS, 2019b)[147]. ▪ Area losses have continued into the current reporting period due to new forestry, paths, tracks and land clearance. Overgrazing, burning, wind farm development and erosion continue to be issues for this habitat. Nitrogen deposition from agricultural activities that generate air pollution has recently been recognised as negatively impacting this habitat. Furthermore, climate change is acknowledged to be a potential future threat to wet heath, as it is expected to cause rises in temperature and decreases in precipitation. (NPWS, 2019a)[148].

[146] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 490-491

[147] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 534

[148] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4010 Wet Heath, page 27

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	European dry heaths [4030]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02** Droughts and decreases in precipitation due to climate change (M)	▪ A number of significant pressures were recorded for this habitat in the current reporting period, particularly overgrazing by sheep and burning for agriculture. Both cause habitat degradation and loss through erosion. Afforestation and wind farms are also recognised as problems for Dry heath. (NPWS, 2019a)[149]. ▪ The low-importance pressures A06 (Abandonment of grassland management (e.g. cessation of grazing or of mowing)), **A36** (Agriculture activities not referred to above) (i.e. agricultural intensification), **C01** (Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell)), **E01** (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), **F01** (Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions)), **H06** (Closure or restrictive access to site/habitat) (i.e. fencing**), J03** (Mixed source air pollution, air-borne pollutants) and **L06** (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)), recorded in NPWS (2013a) but not in this reporting period, were retained as low importance pressures for the current reporting period. **F07** (Sports, tourism and leisure activities), **I02** (Other invasive alien species (other than species of Union concern)), **I04** (Problematic native species), **L01** (Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), **L02** (Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)), and **M05** (Collapse of terrain, landslide), were recorded in both the previous and current reporting periods.

[149] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 4030 Dry Heath, page 27

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					They have also been retained as low-importance pressures. Climate change (under two separate codes, **N01** and **N02**) is assessed as a low-importance pressure, but is considered to be a medium importance threat to 4030. (NPWS, 2019b)[150].
	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]	**Bad**	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	**A02** Conversion from one type of agricultural land use to another (H) **A06** Abandonment of grassland management (e.g. cessation of grazing or of mowing) (H) **A10** Extensive grazing or undergrazing by livestock (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **A14** Livestock farming (without grazing) (M) **A31** Drainage for use as agricultural land (M)	▪ The main pressures on the habitat are associated with agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry. (NPWS, 2019a)[151].
	Blanket bogs (* if active bog) [7130]	**Bad**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **A27** Agricultural activities generating air pollution (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **C05** Peat extraction (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **K02** Drainage (M)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **A27** Agricultural activities generating air pollution (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **C05** Peat extraction (H) **L01** Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (M) **D01** Wind, wave and tidal power, including infrastructure (M) **K02** Drainage (M) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on blanket bogs are overgrazing, burning, afforestation, peat extraction, and agricultural activities causing nitrogen deposition. Erosion, drainage and wind farm construction are other issues of concern. (NPWS, 2019a)[152]. ▪ K02 (Drainage) was recorded as a medium-importance pressure in NPWS (2013a), and was retained as a medium-importance pressure for this reporting period. Drainage of 7130 habitat is usually the first step carried out when attempting to develop the habitat in some way (e.g. for forestry or agriculture). Lindsay et al. (2014b) state that the “main long-term effect of drainage is to re-shape the bog itself, with major implications for water, carbon and biodiversity”. K02 was recorded within 7130

[150] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 567

[151] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 6410 Molinia Meadows, page 30

[152] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7130 Blanket Bog (*Active), page 33

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
				N02 Droughts and decreases in precipitation due to climate change (M)	habitat in the Caha Mountains SAC (000093) (0.9% of 7130 habitat) (Perrin et al., 2014b), as well as within 7130 habitat in Eshbrack Bog NHA (001603) (Hodd & Barron, 2015) and 7130 areas surveyed by Foss et al. (2015)….. The low-importance pressures A36 (Agriculture activities not referred to above) (i.e. agricultural intensification), J03 (Mixed source air pollution, air-borne pollutants), L06 (Interspecific faunal and floral relations (competition, predation, parasitism, pathogens)) and N (Climate change), recorded in NPWS (2013a) but not in this reporting period, were retained as low-importance pressures for the current reporting period. E01 (Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels)), F07 (Sports, tourism and leisure activities), I02 (Other invasive alien species (other than species of Union concern)) and M05 (Collapse of terrain, landslide), were recorded in both the previous and current reporting periods. They have also been retained as low-importance pressures. J04 (Mixed source soil pollution and solid waste (excluding discharges)), recorded within the current reporting period only, was also assessed as a low-importance pressure for 7130 habitat, largely due to the small area of impact.(NPWS, 2019b)[153].
	Transition mires and quaking bogs [7140]	**Bad**	**B01** Conversion to forest from other land uses, or afforestation (H) **J01** Mixed source pollution to surface and ground waters (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H)	**B01** Conversion to forest from other land uses, or afforestation (H) **J01** Mixed source pollution to surface and ground waters (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **A06** Abandonment of grassland management (M)	▪ The main pressures facing transition mires in Ireland are afforestation, water pollution, drainage and hydrological changes. Grazing/agricultural management is also prominent as an issue. (NPWS, 2019a)[154] ▪ Peat extraction has not been added as a threat due to likelihood that levels of peat extraction will decrease in Ireland in the

[153] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 796-797

[154] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7140 Transition mires and quaking bogs, page 33

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			A06 Abandonment of grassland management (M) A09 Intensive grazing or overgrazing by livestock (M) **C05** Peat extraction (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **L02** Natural succession resulting in species composition change (M)	**A09** Intensive grazing or overgrazing by livestock (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **L02** Natural succession resulting in species composition change (M)	near future, both due to environmental legislation to protect peatland habitats and to the phasing out of industrial Bord na Móna cutting. The fact that transition mires tend to be very wet means that they were generally shielded from direct cutting effects, and damage, where it occurred, was due to changes (e.g. in hydrology) wrought by nearby peat cutting. (NPWS, 2019b)[155].
	Depressions on peat substrates of the *Rhynchosporion* [7150]	**Inadequate**	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	**A09** Intensive grazing or overgrazing by livestock (H) **A11** Burning for agriculture (H) **C05** Peat extraction (H) **K02** Drainage (H) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H) **N01** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M)	▪ The main pressures on the habitat are associated with impacts on the supporting bog habitats, especially overgrazing, burning, peat extraction, drainage and conversion to forestry (NPWS, 2019a)[156] ▪ Invasive (**I02**) and problematic native species **(I04**): raised bog condition assessments undertaken in the reporting period have indicated that invasive species continue to threaten the Future prospects of ARB and Rhynchosporion depressions at 6 of the 28 sites assessed. There are increasing concerns about the potential negative impacts on peatlands from climate change and at a more localised level from air pollution (nitrogen deposition) in recent years. (NPWS, 2019b).[157]
	Alkaline fens [7230]	**Bad**	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (H) **K04** Modification of hydrological flow (H) **L02** Natural succession resulting in species composition change (H)	**A06** Abandonment of grassland management (H) **A09** Intensive grazing or overgrazing by livestock (H) **K02** Drainage (M) **K04** Modification of hydrological flow (M) **J01** Mixed source pollution to surface and ground waters (M)	▪ The main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage and pollution (NPWS, 2019a)[158]. ▪ The main pressures (and also threats) facing alkaline fens in Ireland, based on the data available, are abandonment (and consequent succession), overgrazing, drainage and pollution. Climate change is

[155] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 821

[156] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7150 Rhynchosporion Depressions, page 34

[157] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 843

[158] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 7230 Alkaline fens, page 36

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			J01 Mixed source pollution to surface and ground waters (M) **K01** Abstraction from groundwater, surface water or mixed water (M) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (M)	**K01** Abstraction from groundwater, surface water or mixed water (M) **N02** Droughts and decrease in precipitation due to climate change (M) **N03** Increases or changes in precipitation due to climate change (M)	likely to affect this habitat due to warmer temperatures and changes to rainfall and flood events, which may increase drying out and vegetation succession. In 2013, many similar threats were identified, but land reclamation and invasion by non-native species were both deemed to be significant pressures (and threats). (NPWS, 2019b)[159]
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**Bad**	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M)	**I02** Other invasive alien species (other than species of Union concern) (H) **A09** Intensive grazing or overgrazing by livestock (H) **I04** Problematic native species (M) **B09** Clear-cutting, removal of all trees (M) **M07** Storm, cyclone (M)	▪ the greatest on-going pressures on these woods come from invasive non-native species such as Rhododendron ponticum, cherry laurel (Prunus laurocerasus) and beech (Fagus sylvatica), and overgrazing by deer. These impacts severely reduce tree regeneration, which is essential for the long-term viability of woodlands….These pressures, in conjunction with the continued fragmentation of remaining stands, lead to an Overall Status of Bad with a deteriorating trend (NPWS, 2019a)[160]. ▪ **M07** storm, cyclone is a low-importance pressure but a medium importance threat... **J04** Mixed source soil pollution and solid waste (excluding discharges) was listed as a low-importance…Other pressures recorded from the 63 monitoring sites by Daly et al. (in prep.) comprise: **E01** Roads, paths railroads and related infrastructure (e.g. bridges, viaducts, tunnels) (6 sites); **F07** Sports, tourism and leisure activities (4 sites); **B21** Use of physical plant protection in forestry, excluding tree layer thinning (2 sites); **A11** Burning for agriculture (2 sites); **A05** Removal of small landscape features for agricultural land parcel consolidation (hedges, stone walls, rushes, open ditches, springs, solitary trees, etc.) (2 sites); **B07** Removal of dead and dying trees, including debris (1 site); **I05** Plant and animal

[159] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 907 - 908

[160] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 91A0 Old Oak Woodland, page 39

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
					diseases, pathogens and pests (1 site).(NPWS, 2019b)[161].
	Euphydryas aurinia (Marsh Fritillary) [1065]	**Inadequate**	**A01** Conversion into agricultural land (excluding drainage and burning) (H) **A07** Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) **A10** Extensive grazing or undergrazing by livestock (M) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	**A01** Conversion into agricultural land (excluding drainage and burning) (H) **A07** Abandonment of management/use of other agricultural and agroforestry systems (all except grassland) (M) **A10** Extensive grazing or undergrazing by livestock (M) **B01** Conversion to forest from other land uses, or afforestation (excluding drainage) (H)	▪ Sites are often on marginal land in upland areas and the edges of wetlands and peatlands which are subject to pressures from agricultural conversion and afforestation. There are also issues where vegetation becomes unsuitable through natural succession. Many management practices create and maintain the short, generally tussocky vegetation that the species requires, including grazing, natural exposure on western islands and coastal headlands, wet and low-nutrient ground conditions, and disturbance in the recent past (for example burning or peat extraction). (NPWS, 2019a)[162]. ▪ However there are also issues in wetland sites, particularly where management ceases and vegetation becomes unsuitable through natural succession (NPWS, 2019c)[163].
	Salmo salar (Salmon) [1106]	**Favourable**	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) J01 Mixed source pollution to surface and ground waters (limnic and terrestrial) (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M) D02 Hydropower (dams, weirs, run-off-the-river), including infrastructure (M)	A26 Agricultural activities generating diffuse pollution to surface or ground waters (H) G19 Other impacts from marine aquaculture, including infrastructure (H) K05 Physical alteration of water bodies (H) N01 Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) A25 Agricultural activities generating point source pollution to surface or ground waters (M) B23 Forestry activities generating pollution to surface or ground waters (M)	▪ The survival of salmon during the marine phase of its lifecycle has been identified as the key determinant of trends in population size in natal rivers (NPWS, 2019a)[164]. ▪ The key pressures considered to pose threats / challenges to Atlantic salmon include: Water quality from (a) agricultural production, domestic waste-water treatment systems and forestry which are key sources of both rural diffuse and point-source pollution; and (b) urban waste-water pressures which are a source of point-source pollution.

[161] NPWS (2019b). The Status of EU Protected habitats and Species in Ireland. *Volume 2: Habitat assessments*. Section 7.3 Additional Information, page 1052-1053

[162] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Species: 1106 Atlantic salmon, page 55

[163] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 269-270

[164] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1065 Marsh Fritillary (*Euphydryas aurinia*), page 52

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
			G11 Illegal harvesting, collecting and taking (M) G20 Abstraction of water, flow diversion, dams and other modifications of hydrological conditions for freshwater aquaculture (M) L06 Interspecific relations (competition, predation, parasitism, pathogens) (M)	F12 Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (M) F28 Modification of flooding regimes, flood protection for residential or recreational development (M) G11 Illegal harvesting, collecting and taking (M) I02 Other invasive species (other than species of Union concern) (M)	Hydromorphological threats relating to physical modification or damage to habitat and natural river/lake processes, and changes functions caused by channelisation, drainage, dams, weirs, barriers and locks, overgrazing, embankments and culverts. Temperature changes related to climate change may shift the phenologies of anadromous fishes. The consequences of such changes are unknown, but the change has the potential to disrupt established ecological relationships at various life history stages. Future warming may intensify the severity of floods and droughts, lessening the frequency of successful annual reproduction for anadromous fishes. Certain invasive alien species have the potential to negatively impact wild salmon habitat in the freshwater or estuarine environment in Ireland through both direct and indirect means, although documented knowledge is limited. Illegal catches, both at sea and within rivers remain a concern and an impediment to stock recovery Over-reporting of catches which can affect population estimates and negatively impact stock assessments and their sustainable management. Impacts of salmon aquaculture on native wild stocks from disease and escapes. (NPWS, 2019c)[165]
	Lutra lutra (Otter) [1355]	**Favourable**	No pressures	No threats	▪ The main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear)[166].

[165] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 394-395

[166] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1355 Otter, page 62

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	*Najas flexilis (*Slender Naiad) [1833]	**Inadequate**	**K04** Modification of hydrological flow (H **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) **C05** Peat extraction (M)	**K04** Modification of hydrological flow (H) **K05** Physical alteration of water bodies (H) **A26** Agricultural activities generating diffuse pollution to surface or ground waters (H) **A25** Agricultural activities generating point source pollution to surface or ground waters (H) **F12** Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water (H) **I02** Other invasive alien species (other than species of Union concern) (M) **B23** Forestry activities generating pollution to surface or ground waters (M) **C05** Peat extraction (M) **F33** Abstraction of ground and surface waters (including marine) for public water supply and recreational use (M)	▪ The species is threatened by enrichment (eutrophication), acidification and peatland damage. (NPWS, 2019a)[167]. ▪ Golf courses were present adjacent to at least two Najas flexilis lakes, therefore F16 'Other residential and recreational activities and structures generating diffuse pollution to surface or ground waters' can be considered a pressure and threat of low importance. There are abstractions from at least three of the lakes (Knocka, Shannagh and Ballynakill), however there is no evidence that these are currently impacting on the species. It is possible, however, that abstractions may be a threat, in combination with predicted droughts owing to climate change (NPWS, 2019c)[168].
Lough Corrib SPA 004042	Gadwall (Anas strepera) [A051]				
	Shoveler (Anas clypeata) [A056]				
	Pochard (Aythya ferina) [A059]				
	Tufted Duck (Aythya fuligula) [A061]				
	Common Scoter (Melanitta nigra) [A065]				
	Hen Harrier (Circus cyaneus) [A082]				
	Coot (Fulica atra) [A125]				
	Golden Plover (Pluvialis apricaria) [A140]				
	Black-headed Gull (Chroicocephalus ridibundus) [A179]				
	Common Gull (Larus canus) [A182]				
	Common Tern (Sterna hirundo) [A193]				

[167] NPWS (2019a). The Status of EU Protected habitats and Species in Ireland. *Volume 1: Summary Overview*. Habitats: 1833 Slender Naiad, page 45

[168] NPWS (2019c). The Status of EU Protected habitats and Species in Ireland. *Volume 3: Species assessments*. Section 7.3 Additional Information, page 52-53

European site	Qualifying Interests (QIs)	Article 17 Overall status	Existing pressures for QI as identified in Article 17 (NPWS, 2019) reporting	Existing threats for QI as identified in Article 17 (NPWS, 2019) reporting	Additional commentary on current threats and pressures
	Arctic Tern (Sterna paradisaea) [A194]				
	Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]				
	Wetland and Waterbirds [A999]				
Cregganna Marsh SPA 004142	Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]				
Inner Galway Bay SPA 004031	Black-throated Diver (*Gavia arctica*) [A002]				
	Great Northern Diver (*Gavia immer*) [A003]				
	Cormorant (*Phalacrocorax carbo*) [A017]				
	Grey Heron (*Ardea cinerea*) [A028]				
	Light-bellied Brent Goose (*Branta bernicla hrota*) [A046]				
	Wigeon (*Anas penelope*) [A050]				
	Teal (*Anas crecca*) [A052]				
	Red-breasted Merganser (*Mergus serrator*) [A069]				
	Ringed Plover (*Charadrius hiaticula*) [A137]				
	Golden Plover (*Pluvialis apricaria*) [A140]				
	Lapwing (*Vanellus vanellus*) [A142]				
	Dunlin (*Calidris alpina*) [A149]				
	Bar-tailed Godwit (*Limosa lapponica*) [A157]				
	Curlew (*Numenius arquata*) [A160]				
	Redshank (*Tringa totanus*) [A162]				
	Turnstone (*Arenaria interpres*) [A169]				
	Black-headed Gull (*Chroicocephalus ridibundus*) [A179]				
	Common Gull (*Larus canus*) [A182]				
	Sandwich Tern (*Sterna sandvicensis*) [A191]				
	Common Tern (*Sterna hirundo*) [A193]				
	Wetland and Waterbirds [A999]				

Appendix K
NIS Proposed Mitigation Measures

Draft Plan Policy Section Ref.	Proposed Mitigation/Recommendation
Chapter 1 – The Vision	*None proposed.*
Chapter 2 – A New Way Forward: NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11	**Mitigation of Adverse Effects on Integrity** A suite of mitigation is necessary to address the Adverse Effects on Integrity identified from the assessment of NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11, inclusive. This includes: **Existing Commitment to Environmental Assessment**. As provided for under NPO1 any plans or projects arising from the NPF will be subject to their own environmental assessment and consents/approvals consistent with legislative requirements, including the legal requirements of the EU Habitats Directive and in particular the provisions of Article 6(3) and, if necessary, 6(4) of that Directive. The environmental assessments to include, as necessary, Strategic Environmental Assessment and Environmental Impact Assessment (EIA), Appropriate Assessment (AA). **Overarching Mitigations**. With respect to the Natura 2000 network, it is recognised that there is an important, existing, framework of legislation[35], policy[36] and guidance[37] applicable to the network at European and national level; a framework therefore relevant to the assessment of the draft revised NPF. That framework is based on the legal provisions of the EU Habitats Directive; and will also need to be expanded upon in due course by the provisions of the recently approved EU Nature Restoration Law. The following mitigation seeks to compliment and support that existing framework through identifying specific mitigation measures required to address the adverse effects on the integrity of European sites arising from the draft revised NPF; as identified by this NIS. In identifying the necessary mitigation measures, cognisance has been given to ensuring that the policies of the draft revised NPF: Do not hinder or prevent achieving or maintaining the favourable conservation status of the Natura 2000 network and its component European sites from being achieved; and Where possible and applicable to a plan such as the NPF, aligns with and compliments actions being taken to achieve favourable conservation status. The European sites which form the Natura 2000 network do not function in isolation. As reflected in Article 10 of the EU Habitats Directive, the landscape features outside of European sites, such as linear features (*e.g.,* river corridors, hedgerows, stone walls) or stepping-stones (*e.g.,* woodland, waterbodies, Annex 1 habitat outside of European sites[4]) has an important function in ensuring the coherence of the Natura 2000 network; particularly with respect to the migration, dispersal and genetic exchange of wild species of community interest. Article 10 requires Member States to endeavour in their land-use planning and development policies to encourage the management of features of the landscape which are of major importance for wild fauna and flora. In light of the above and given, in particular, the draft revised NPF includes policies for significant population and economic growth combined with the significant policies in relation to the delivery of regional renewable electricity capacity allocations for onshore wind and solar, and local Target Power Capacity allocations, there is a significant risk of policies individually and in combination with one another resulting in

[1] e.g., EU Habitats Directive, EU Birds Directive, EU Nature Restoration Law

[2] e.g., EU Biodiversity Strategy, Ireland's 4th Biodiversity Action Plan

[3] e.g., DHLGH (2022) *Development Plans – Guidelines for Planning Authorities*. Section 9.2.

[4] e.g., Annex 1 Habitat Mapping - https://airomaps.geohive.ie/ESM/ (linked to NPWS data source linked to Article 17 reporting)

	adverse effects on the integrity of European sites and a knock-on effect on the coherence of the Natura 2000 network. The application of the identified mitigations will address these effects and avoid compounding the declared biodiversity crisis in Ireland. Given the potential for adverse effects, there is a need through mitigation measures to balance the risk of these effects through setting out at a national level the measures which can guide, control and manage the delivery of those policies, including any plans or projects which emerge from those policies, whilst also ensuring the integrity of European sites and the coherence of the Natura 2000 network. Such measures can then be tiered down, as relevant, to regional and local tiers of development planning. The mitigation focuses on European sites themselves and, in reflection of Article 10 of the EU Habitats Directive, the linear features and stepping-stones outside of the European sites necessary to the function of the European sites, and their qualifying interests, and ensuring the coherence of the Natura 2000 network. The overarching mitigation is as follows: The principles of the mitigation hierarchy – avoid, minimise and mitigate (in that order) – are applied to their fullest extent with respect to plans and projects. This is to ensure that likely significant effects on European sites, their QIs and SCIs are avoided in the first instance and the mitigation hierarchy applied. Development which is likely to result in the loss, fragmentation or deterioration of habitats which are qualifying interests for European sites should be avoided as a principle of plan making and projects; unless legislation dictates otherwise. To inform plans or projects emerging from the policies of the revised draft NPF, the corridors[5] and stepping-stones[6] outside of European sites necessary to ensure their function and collective coherence will be identified, mapped and described in terms of their relationship to the functionality of European sites and the coherence of the Natura 2000 network. This mitigation can align with or sit within existing or future Green Infrastructure Strategies and/or County Biodiversity Action Plans; which can then be reflected through the planning hierarchy at regional and local level. Plans and projects emerging from the policies of the revised draft NPF will take account of the mapped corridors and stepping-stones outside of European sites and their function during plan preparation and project consenting. Linked to the mapping of corridors and stepping-stones, local authorities will identify opportunities to strengthen and enhance mapped corridors and stepping-stones. Again, this mitigation can align with or sit within existing or future Green Infrastructure Strategies and/or County Biodiversity Action Plans; which can then be reflected through the planning hierarchy at regional and local level. It could also align with the response at a regional and local level with respect to the move towards no net loss of biodiversity consistent with NPO85**.** Movement towards no net loss for development planning and policy is critical and consistent with the identified actions of the legally mandated 4th Biodiversity Action Plan. In this regard, the Department, in collaboration with relevant Government agencies, will prepare and publish a science-based methodology by which no net loss can be demonstrated for their land use planning remit. The methodology will also address viable options/mechanism to address losses where these are identified at a project level. Such options/mechanisms could include addressing losses strategically through Green Infrastructure Strategies and/or County Biodiversity Action Plans consistent with and

[5] *e.g.,* watercourse, hedgerows, treelines, stone walls

[6] *e.g.,* waterbodies, ex-situ foraging/refuge sites, Annex 1 habitats outside of European sites

	complimenting the National Restoration Plan to be published by 2026 (in accordance with EU Nature Restoration Law) and consistent with Outcome 2F of the 4th Biodiversity Action Plan. **Policy Specific Mitigations.** With respect to the majority of the NPF, the mitigations with respect to the explicit commitment to environmental assessment and the preparation and the publication of Guidance for Biodiversity and Development will be sufficient to mitigate at the national Plan level any adverse effects on the integrity of European sites arising from the revised NPF. However, for certain policies, policy specific mitigations are identified; as detailed below. *Development Phasing* While respecting the broad principles of the NPF, population and employment growth will need to initially be targeted at locations which have capacity in key services and functions necessary to enable and support that growth without contributing to existing identified threats and pressures to, and avoid adverse effects on integrity of, European sites. This targeting and prioritisation will allow time for actions to address existing issues to be addressed and to build capacity for growth where necessary; including in the key areas of urban wastewater, urban drainage and access/recreation infrastructure. *Water Supply and Abstraction* Uisce Éireann, as Ireland's national public water services provider, has published for consultation its draft Water Services Strategic Plan 2050 (WSSP 2050); which sets out its objectives and the means by which it aims to achieve them in the context of the significant challenges that are likely to be faced over the next 25 years. The draft Plan was published in May 2024 and consultation will run until July 2024. The WSSP 2050 is informed by a SEA and NIS. The strategic objectives of the WSSP 2050 are: Safe and reliable drinking water; Protecting and restoring the environment; Sustainable services fit for the future; and Supporting customers, communities and the economy. The strategic objectives are underpinned by strategic aims including delivering reliable water supplies, protecting the water environment and contributing to meeting the requirements of the Water Framework Directive. These strategic aims are themselves underpinned by 35 key actions; which includes a commitment to review Uisce Éireann's first National Water Resources Plan (NWRP) which was delivered under the current Water Services Strategic Plan which this draft will replace once approved. Uisce Éireann state that the WSSP 2050 will be reviewed every five years; in part to enable it to adapt to changing circumstances and evolving needs. The draft NIS of the WSSP 2050 concludes that, subject to the mitigation proposed, the implementation of the WSSP 2050 will have no adverse effects on any European sites, either alone or in combination with other plans and projects. WSSP 2050 should be implemented in full once approved and the AA process for it has concluded. *Urban Wastewater*[7]

[7] Mitigation identified with reference to: EPA (May 2024) *Impacts of Pressures on Water Quality – Urban Wastewater.* Catchment Science & Management Unit

	The implementation of the Urban Wastewater Treatment Directive has led to a significant reduction in nutrients and organic material polluting surface waters. However, it is understood that Ireland is still not fully compliant with this Directive; which could also be contributing the existing threats and pressures on European sites as documented in Article 17 reports and also EPA water quality reports. These threats and pressures could be exacerbated further by the predicted population and employment growth identified by the NPF through policies NPO1 to NPO4, inclusive. Mitigation actions include putting in place or upgrading deficient wastewater treatment infrastructure and getting the best performance from existing systems by improving how they are operated and maintained. Such mitigations require investment and substantial work is needed to improve the Urban Wastewater network in Ireland and it is recognised by the EPA that it will take many years of sustained investment to bring all treatment infrastructure up to standard and also to provide for future needs. The EPA estimates that it will take a multi-billion euro investment and, based on current investment levels, at least two decades to get all treatment systems up to standard. In 2022, the EPA identified 89 priority areas where action is needed to protect the environment and identifies that Uisce Éireann's next capital investment plan (2025 to 2029) has the potential to deliver significant benefits to our environment and that it is critical that this investment is directed to the priority areas. The EPA also notes that additional actions are highlighted in the third River Basin Management Plan to address urban wastewater pressures. Given that there are existing threats and pressures on European sites from urban wastewater discharges, including in the cities and regions where population and employment growth will be targeted plus the significant potential that the increased predicted population and employment growth to add to these existing pressures, the following mitigation measures are identified linked to the *Development Phasing* mitigation set out above: The delivery of putting in place or upgrading deficient wastewater treatment infrastructure and getting the best performance from existing systems; with a key focus on the identified priority areas and provision for increasing investment levels commensurate with the delivery. This will assist in addressing existing threats and pressures on European sites; including with respect to where planned population and employment growth will be targeted; Identify the actions and investment necessary to build capacity into the urban wastewater network commensurate with the predicted, planned and phased population and employment growth to ensure continued conformance with the Urban Wastewater Treatment Directive and to ensure that existing threats and pressures are not exacerbated and to ensure that no new threats and pressures emerge; and RSESs, as then tiered down into CDPs, will need to ensure that the urban wastewater infrastructure necessary to accommodate the planned and phased population and employment growth is developed in parallel with the delivery of (a) and (b) right through to 2040. Failure to address existing threats and pressures from urban wastewater discharges and to build capacity for planned future population and employment growth will result in significant risks at the project consenting stage for those projects reliant on that capacity; particularly in relation to ensuring that the Appropriate Assessment process can be satisfactorily concluded.

	Urban Drainage Pollution from urban drainage (*e.g.,* nutrients, sediments, hydrocarbons, historic contamination) is identified as an existing threat and pressure to European sites. Policies should be embedded into RSESs and tiered down to CDP for any development seeking consent to ensure, through its design and operation, that it will not contribute additional threats and pressures from urban drainage pollution and, where possible, address any existing potentially contributing threats and pressures through that development; particularly where historic contamination may be present on previously developed land or where drainage features have been historically culverted (*e.g.* opportunities for daylighting). The design and operation of development should apply Sustainable Urban Drainage Systems (SuDS) principles and incorporate urban drainage Nature Based Solutions (NbS) with reference to up-to-date guidance *Recreational Infrastructure and Access Management* Development associated with leisure and recreation activities of the population alongside other more diffuse recreational activities *e.g.,* walking, cycling etc. are identified as existing threats and pressures to European sites; including in those cities and regions where the majority of the planned population and employment growth will be targeted. To inform the RSES, a Regional Access and Recreation Strategy (RARS), with reference to European Sites and their qualifying interests, will need to be prepared to identify the existing recreation infrastructure, identify existing threats, pressures or management issues relating to this infrastructure (including but not exclusively related to European sites) and identify actions and funding necessary to address existing threats, pressures and management issues in addition to ensuring that sufficient formal and informal greenspace (including natural and accessible green space) is planned and delivered to accommodate the recreational and access needs of planned population and employment growth identified within the revised NPF. The RARSs will then need to be tiered down to CDP in terms of action and delivery. In relation to specific mitigation and through their RARS, the RSES for the five Cities will need to take account in particular of the following: Dublin: Recreation and access management issues related to the Wicklow Mountains SAC and SPA and European sites associated with the coastal areas; Cork: Recreation and access management related to Great Island Channel SAC and Cork Harbour SPA Limerick: Recreation and access management issues related to the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA; particularly as it relates to the urban pressure impacts and effects of Limerick City and its environs in light of its planned population and economic growth. Galway: Recreation and access management issues; particularly with respect to those European sites within or adjacent to the urban areas of Galway City and its environs in light of its planned population growth and mindful of the identified pressures of those European sites in Galway Bay. Waterford: Recreation and access management issues related to European sites; particularly those identified with respect to Lower River Suite SAC and the European sites at Tramore. **Subject to the application of the above mitigation, it is concluded that policies NPO2, NPO3, NPO4, NPO5, NPO6, NPO7, NPO8, NPO9, NPO10 and NPO11 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 3 – Effective Regional Development:	*Not Applicable.*

Chapter 4 – Making Stronger Urban Places: NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations. **Subject to the application of the above mitigation, it is concluded that policies NPO14, NPO15, NPO16, NPO17, NPO18, NPO19, NPO20 and NPO21 will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 5 – Planning for Diverse Rural Places: NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations, and (iii) the policy specific mitigations. Additional policy specific mitigations are included to address certain policies of Chapter 5 where mitigations (i) to (iii), inclusive, are not considered sufficient to mitigate for adverse effects. <u>Additional Policy Specific Mitigation for Chapter 5</u> *Agri-food Industry* The following policy-specific mitigation measures are identified to address the potential adverse effects which will arise through the support provided by Policy NPO34: Any agriculture-based development seeking planning consent which includes, results in or supports activities that will result in any increase in point-source or diffuse pollution in sub-catchments within or upstream of any European site(s) that support habitats or species which are in unfavourable conservation status due to agricultural threats or pressures, or within sub-catchments identified "at risk" due to water quality threats and pressures relating to agriculture or other source[8], should be avoided. If avoidance is not possible then any development consent should provide a science-based justification as to why the development should be permitted alongside any mitigation or compensation necessary to address adverse effects consistent with Article 6(3) and 6(4) of the EU Habitats Directive. Any agriculture development seeking consent for development which includes, will result in or supports activities that can result in point-source or diffuse pollution will be required to demonstrate that it will not either alone or in combination with other projects result in any new or increased point-source or diffuse pollution of surface or groundwater; particularly if those surface or groundwater systems can influence the current or future conservation status of any European sites.

[8] EPA Maps – Significant Pressures Datasets

	Any agriculture development seeking consent for development which will result or support activities that can result in nitrogen air pollution will be required to demonstrate that it will not either alone or in combination with other projects result in any new or increased nitrogen air pollution; particularly if that pollution will adversely affect sensitive habitats or species, including those within European sites. **Subject to the application of the above mitigation, it is concluded that policies NPO24, NPO26, NPO27, NPO28, NPO29, NPO31, NPO33, NPO34 and NPO35 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 6 – People, Homes, and Community: NPO42, NPO43, NPO44, NPO46 and NPO48	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO42, NPO43, NPO44, NPO46 and NPO48, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations. **Subject to the application of the above mitigation, it is concluded that policies NPO42, NPO43, NPO44, NPO46 and NPO48 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 7 – Realising our Island and Marine Potential: NPO50, NPO52, NPO54, NPO55, NPO56	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO50, NPO52, NPO54, NPO55 and NPO56, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigation and (iii) the policy specific mitigations. In addition to (iii), additional policy specific mitigations are identified for **Chapter 7** and specifically policies NPO54 and NPO56, as detailed below. Policy Specific Mitigation for Chapter 7 Policies Policy NPO54 is currently unclear in relation to whether European sites are considered to be "vulnerable areas" with respect to the effects of sea level change and coastal flooding and erosion, and whether adaptation responses to be included within national policy include responses to address the effects identified; particularly with respect to coastal European sites. In terms of mitigation, coastal European sites will need to be identified as "vulnerable areas" alongside other social and economic assets and this policy will need to make that clear. This would then enable adaptation responses to be included within national policy to provide the framework to addressing these effects and could also be addressed within the Coastal Management Plans identified in Policy NPO55. Such adaptations will need include measures to address the effects of coastal squeeze on European sites and identify actions for managed retreat where necessary to address this coastal squeeze. Policy NPO56 provides support to the development of Ireland's offshore renewable energy potential with particular reference to grid connectivity and port infrastructure. In terms of this support, it will need to be linked to the policy and plan making framework through which this support will be delivered and through which specific projects will emerge. The framework reference will be the terrestrially focussed RSESs, and Development plans and the marine focussed National Marine Planning Framework and Designated Marine Area Plans; alongside the interactions between these plans. This will enable a cohesive and robust framework for delivering this support; which includes the requirement

	for consideration of any plans or projects supported by this policy to be subject to the requirements of Article 6(3) and, where necessary, 6(4) of the EU Habitats Directive. **Subject to the application of the above mitigation, it is concluded that policies NPO50 NPO52, NPO54, NPO55 and NPO56 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 8 – Working With Our Neighbours: NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations. **Subject to the application of the above mitigation, it is concluded that policies NPO58, NPO59, NPO61, NPO62, NPO63, NPO64 and NPO66 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
Chapter 9 – Climate Transition and Our Environment: NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations and (iii) the policy specific mitigations. With respect to Policy NPO85, the following mitigation will be implemented to address the uncertainty identified and to ensure that no adverse effects on European sites will result through this policy: <u>No Net Loss of Biodiversity Guidance</u> Movement towards no net loss for development planning and policy is critical and consistent with the identified actions of the legally mandated 4th Biodiversity Action Plan. In this regard, the Department, in collaboration with relevant Government agencies, will prepare and publish a science-based methodology by which no net loss can be demonstrated for their remit land use planning. The methodology will also address viable options/mechanism to address losses where these are identified at a project level. Such options/mechanisms could include addressing losses strategically through Green Infrastructure Strategies and/or County Biodiversity Action Plans consistent with and complimenting the National Restoration Plan to be published by 2026 (in accordance with EU Nature Restoration Law) and consistent with Outcome 2F of the 4th Biodiversity Action Plan. **Subject to the application of the above mitigation, it is concluded that policies NPO69, NPO70, NPO71, NPO72, NPO73, NPO74, NPO75, NPO77, NPO78, NPO80, NPO85, NPO89, NPO90 and NPO91 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**

Chapter 10 – Implementing the National Planning Framework: NPO92, NPO93, NPO94 and NPO96	**Mitigation of Adverse Effects on Integrity** The suite of mitigation identified to address the adverse effects of the policies considered under **Chapter 2** are also applicable to addressing the adverse effects on the integrity of European sites identified with respect to NPO92, NPO93, NPO94 and NPO96, inclusive. This includes (i) the commitment to environmental assessment, (ii) the overarching mitigations, and (iii) the policy specific mitigations. **Subject to the application of the above mitigation, it is concluded that policies NPO92, NPO93, NPO94 and NPO96 alone will not result in an adverse effect on the integrity of any European site or their designated QIs or SCIs, with reference to their Conservation Objectives.**
National Strategic Outcomes	The suite of mitigation measures identified to address the adverse effects of the policies considered under Chapter 2 to 10 are also applicable to addressing the adverse effects on the integrity of European Sites identified with respect to NSO 1, NSO 2, NSO 3, NSO 4, NSO 5, NSO 6, NSO 7, NSO 8, NSO 9, and NSO 10. This includes (i) the existing commitment to environmental assessment, (ii) overarching mitigations, and (iii) the policy-specific mitigations. **Subject to the application of the above mitigation, it is concluded that neither NSO 1, NSO 2, NSO 3, NSO 4, NSO 5, NSO 6, NSO 7, NSO 8, NSO 9, and NSO 10 alone, will not result in an adverse effect on the integrity of any European Site(s) or their designated QIs or SCIs, with reference to their Conservation Objectives.**

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