Autumn 2022

UISCE ÉIREANN : IRISH WATER

Draft Regional Water Resources Plan–North West

Natura Impact Statement

Appendix A

Appendix B

Tionscadal Éireann
Project Ireland
2040

Data disclaimer: This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid 19 Pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy documentation.

Baseline data included in the draft RWRP-NW has been incorporated from numerous sources including but not limited to; National Planning Framework, Central Statistics Office, Regional Spatial and Economic Strategies, Local Authority data sets, Regional Assembly data sets and Irish Water data sets. Data sources will be detailed in the relevant sections of the draft RWRP-NW. 2019 was selected as the base year to align with the planning period (2019-2025) of the NWRP.

A

Appendix A

Screening Report

Summer 2022

Regional Water Resources Plan-North West

Screening for Appropriate Assessment

Jacobs

Data disclaimer: This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid 19 Pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy documentation.

1 Introduction and Background

1.1 Introduction

Irish Water is developing the first National Water Resources Plan (NWRP) to identify deficiencies and need across a water supply and to develop plan level capital and operational solutions to address these issues. The NWRP has been split into two distinct phases:

Phase 1 is the Framework Plan which comprises the methodology Irish Water has used to develop the plan and an assessment of need in terms of quality, quantity, reliability and sustainability for all of Irish Water's supplies nationally.

Phase 2 of the Plan comprises four individual Regional Water Resources Plans (RWRP). Each of these Regional Plans summarises the needs for each Water Resources Zone (WRZ) in terms of quality, quantity, reliability and sustainability and applies the methodology developed in the Framework Plan to each water supply. This allows for the development of plan-level Preferred Approaches (solutions to identified need) for each supply. These four individual regions include:

- Regional Water Resources Plan-North West (RWRP-NW) (Group Area 1)
- Regional Water Resources Plan-South West (RWRP-SW) (Group Area 2)
- Regional Water Resources Plan-South East (RWRP-SE) (Group Area 3)
- Regional Water Resources Plan-Eastern and Midlands (RWRP-EM) (Group Area 4)

The RWRP-EM is in the next stage of this process and has been sent out for consultation at time of writing of this report.

1.2 Aim of this Report

Habitats and species of European importance are provided legal protection under the EU Habitats Directive 92/43/EEC (the Habitats Directive). The Directive protects habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as the Natura 2000 network (hereafter referred to as European sites[1]). European sites comprise Special Areas of Conservation (SACs[2]) and Special Protection Areas (SPAs).

This report provides information in support of a Screening for Appropriate Assessment (AA) of the RWRP–NW Plan in line with the requirements of Article 6(3) of the EU Habitats Directive. It examines the potential for the Plan on its own or in combination with other plans and projects to have likely significant effects (LSEs) on one or more European site(s) in view of the sites' conservation objectives.

1.3 Legislative Context for AA

1.3.1 Underpinning Legislation

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 (S.I. 477/2011) (hereafter referred to as the Habitats Regulations 2011). Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites.

Article 6(3) establishes the requirement for AA:

[1] The term Natura 2000 network was replaced by 'European site' under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011.

[2] Candidate SAC (cSAC) are afforded the same protection as SACs. The process of making cSAC into SACs by means of Statutory instrument has begun and while the process if ongoing the term SAC will be used to conform with nomenclature used in the National Parks and Wildlife Services (NPWS) databased.

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

1.3.2 Public Authorities and Appropriate Assessment

The duties of public authorities in relation to nature conservation are laid out principally in Article 27 of the Habitats Regulations 2011. Irish Water is defined as a 'public authority' for the purposes of the 2011 Regulations.

The first step of the AA process is to carry out a screening to establish whether, in relation to a particular plan or project, there is potential for LSEs to any European site(s). Specifically, Regulation 42(1) states:

"Subject to Regulation 42A, a Screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site."

Regulation 42A applies to situations where the Minister for Housing, Local Government and Heritage is the person responsible for making or adopting the relevant plan or project, so is not applicable in respect of the NWRP.

Regulation 42(6) states that:

"The public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site"

In the context of Article 6(3), Irish Water must carry out Screening for AA of the RWRP–NW to assess whether, on the basis of objective scientific information, the plan individually or in-combination with other plans or projects, is likely to have a significant effect on a European site. If this screening determines that it cannot be excluded, on the basis of objective scientific information, that the Plan, individually or in combination with other plans or projects, will have a significant effect on a European site, then Irish Water must determine that an Appropriate Assessment of the plan is required.

To assist Irish Water in carrying out any Appropriate Assessment that may be required following screening, Irish Water must prepare a Natura Impact Statement (NIS), which is a report comprising the scientific examination of a plan or project and the relevant European site or European sites, to identify and characterise any possible implications of the plan or project individually or in combination with other plans or projects in view of the conservation objectives of the site or sites, and any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment.

In carrying out the full Appropriate Assessment, the Habitats Regulations 2011 require Irish Water to take into account:

- The NIS;
- Any other plans or projects that may, in combination with the plan or project under consideration, adversely affect the integrity of a European site;
- Any supplemental information furnished in relation to any such report or statement;
- If appropriate, any additional information furnished in relation to the NIS;
- Any information or advice obtained by Irish Water;
- If appropriate, any written submissions or observations made to Irish Water in relation to the application for consent for the Plan; and
- Any other relevant information.

Following the Appropriate Assessment process, Irish Water must then only adopt the Plan after having determined that the Plan shall not adversely affect the integrity of any European site(s).

1.4 Overlap with Strategic Environmental Assessment

A Strategic Environmental Assessment (SEA) of the RWRP–NW is being carried out concurrently with the AA process. SEA is required under the EU Council Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive) and are transposed into Irish Regulations[3]. The purpose of SEA is to enable plan-making authorities to incorporate environmental considerations into decision-making at an early stage and in an integrated way throughout the plan making process and to:

- Identify, evaluate and describe the potential significant environmental effects of implementing the RWRP-NW;
- Ensure that identified significant effects are communicated, mitigated and that the effectiveness of mitigation is monitored;
- Identify beneficial (and neutral) effects, and to ensure these are communicated; and
- Provide opportunity for stakeholder and public involvement.

There is a degree of overlap between the requirements of the SEA and AA and in accordance with best practice, an integrated process has been carried out between the development of the RWRP–NW, the SEA and the AA, such as sharing of baseline data where relevant, cohesive assessment of the potential ecological effects of the RWRP–NW on European sites, their qualifying features, and clarification on more technical aspects of the RWRP. These processes together will inform and shape the development of the RWRP–NW.

Figure 1.1 below outlines the SEA and AA Stages and how they align with the development of the RWRP–NW.

[3] In Ireland, the SEA Directive has been transposed into national legislation through S.I. No. 435 of 2004 (European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, as amended by S.I. No. 200 of 2011 (European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011). Also, S.I. No. 436 of 2004 (Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended by External link S.I. No. 201 of 2011 (Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011).

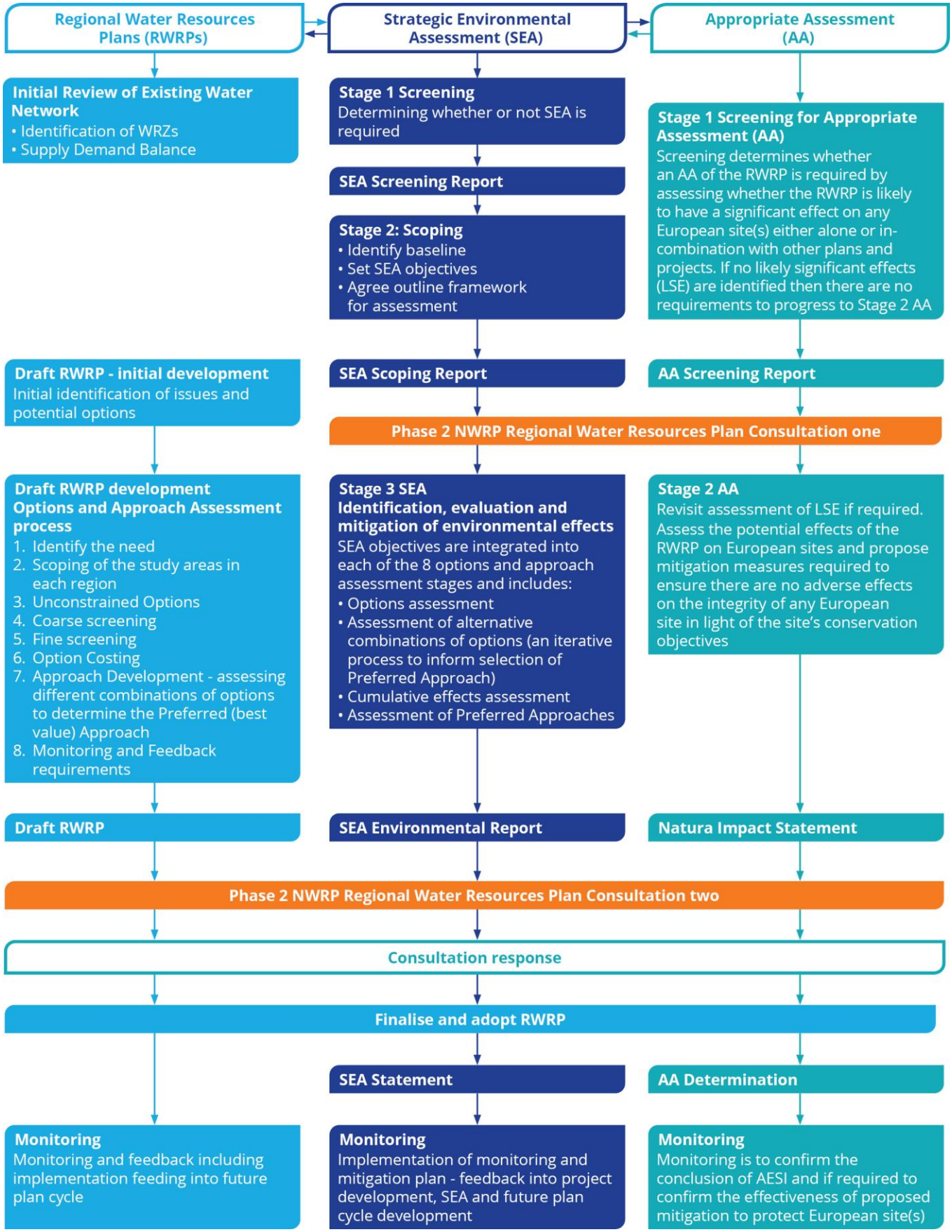

Figure 1.1 - RWRP development with SEA and AA process

1.5 Consultation

Consultation is a mandatory requirement in the SEA process and responses often make specific reference to the AA process. In line with Article 9 (5) of the SEA Regulations (S.I. No. 435 of 2004), the SEA Scoping Report will be issued to the following statutory Environmental Authorities:

- The Environmental Protection Agency (EPA);
- Department of Housing, Local Government and Heritage (DHLGH);
- The Department of Tourism, Culture. Arts, Gaeltacht, Sport and Media (DTCAGSM);
- The Department of Agriculture, Food and the Marine (DAFM);
- Department of Environment, Climate and Communications (DECC); and
- Northern Ireland Environment Agency (NIEA) (transboundary related).

However, Irish Water will undertake wider consultation with government bodies, key stakeholders in the water sector and members of the general public. Comments and views on the SEA Scoping Report will be taken into account in order to inform the approach for the SEA and where relevant the AA process.

2 Development of the RWRP-NW

2.1 Background of the RWRP-NW

Irish Water's NWRP is the first resources plan for the public water supply in the Republic of Ireland. It allows Irish Water to integrate Government Policy, Legislation and external factors that have the potential to impact Irish water supplies into the planning and operation of their existing and future supply asset base.

The objective of the NWRP is to manage customer and communities needs while meeting their requirements over the short, medium and long term by ensuring safe, secure, sustainable and reliable water supplies. The NWRP will:

- Enable Irish Water to address needs across our water supplies in the most effective way over time, through the regulated investment cycles;
- Ensure that there is a transparent framework to develop the most appropriate projects/programmes to meet statutory obligations in relation to water supply; and
- Provide a framework to track outcomes, allowing interventions to be prioritised to bring the water supply up to the required standards in the shortest possible timeframe.

As a basis for broad public and stakeholder engagement, the NWRP will be delivered in two phases.

The first Phase of the NWRP is the Framework Plan which details the methodologies that have been developed in order to identify need and find solutions to address need across all of their supplies in the Republic of Ireland.

Phase 2 of the NWRP is the RWRPs which divides the public water supply into four regional groupings as shown in Figure 2.1 below. The formation of these groups is based on:

- Environmental boundaries: Taking account of water catchments as delineated by the Environmental Protection Agency under the River Basin Management Plans.
- Irish Water Operational Regions: North and West, Eastern and Midlands, and Southern Region.
- Resources: In order to allow Irish Water to optimize the staffing resources during the roll out of the Regional Water Resource Plans, the large number of WRZs in the Southern Region has meant Irish Water has split the area into two groups, South West and South East.
- Local Authority boundaries: This allows Irish Water to align the Local Authority Development Plans to our Supply Demand forecasts, and to assess the full options assessments process with our colleagues in the Local Authority Water Services Sections

The RWRPs are referred to as follows:

- Regional Water Resources Plan-North West (RWRP-NW) (Group Area 1)
- Regional Water Resources Plan-South West (RWRP-SW) (Group Area 2)
- Regional Water Resources Plan-South East (RWRP-SE) (Group Area 3)
- Regional Water Resources Plan-Eastern and Midlands (RWRP-EM) (Group Area 4)

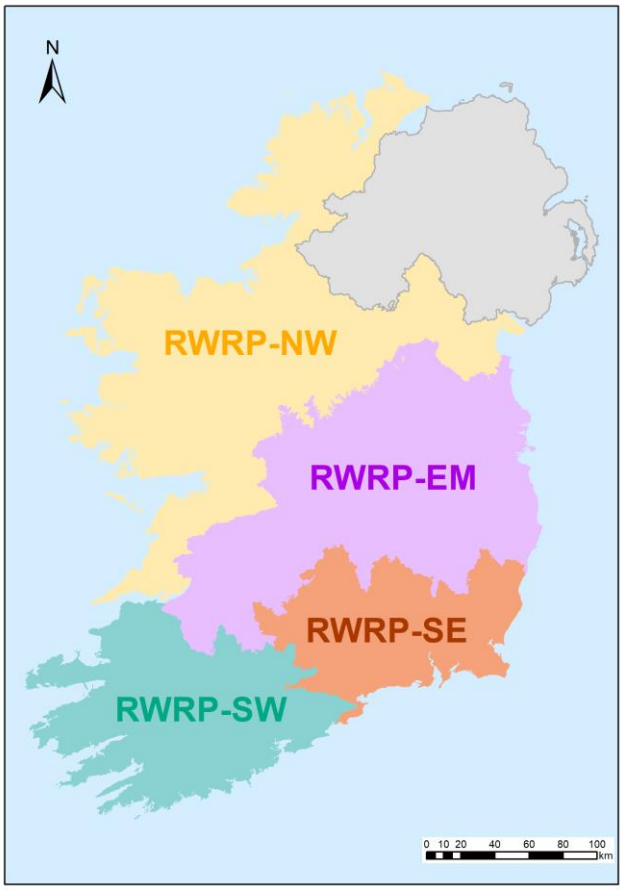

Figure 2.1 – Regional Group Areas for Phase 2

Each of these Regional Plans summarises the needs for each WRZ in terms of quality, quantity, reliability and sustainability and applies the methodology developed in the Framework Plan to each water supply. This allows for the development of plan-level Preferred Approaches (solutions to identified need) for each supply.

2.2 Scope of the RWRP-NW

The RWRP-NW is a plan identifying how to provide safe, secure and reliable water to Irish Water's customers in the North West Region for the next 25 years, without causing adverse impacts on the environment.

2.3 Objectives of the RWRP-NW

The objective of the RWRP-NW is to set out how Irish Water intends to maintain the balance between supply and demand for drinking water over the short, medium and long term. This involves:

- Identifying all possible solutions for each WRZ by the application of the options assessment methodology;
- Screening out all options that are not feasible;
- Developing outline designs for Feasible Options;
- Through Multi Criteria and whole life cost analysis, developing Feasible Options and Preferred Approaches for each WRZ in the short, medium and long term;
- Assessing the Feasible Options to develop a Preferred Approach for each WRZ. This would be expected to result in small local options that can resolve need solely within all or part of the WRZ.

- Assessing the Feasible Options to see whether any Regional Options are available to meet the need across multiple WRZs. This stage can yield a modified Preferred Approach at the Study Area level.
- Assessing the Feasible Options at the Regional Group Area level to see if there are any options that can be applied across the entire Region and, if appropriate, adjust the Preferred Approach accordingly; and
- Assessing any inter-regional options and potential cumulative or in-combination effects and determine if any adjustment is required.

2.4 Geographical Scale of the RWRP-NW

The first stage of the RWRP-NW process is defining the WRZs within the regional group. This is the largest self-contained area within which all water resources can be shared, and all customers experience a similar level of risk of supply failure. From an initial review of the resource system it is anticipated that there will be 118 WRZs identified based on the level of interconnectivity. WRZs are normally made up of a number of Water Supply Zones (WSZs). WSZ is the area supplied by an individual water supply scheme. This typically includes one or more abstractions (from a river, lake or groundwater), a treatment plant, storage in reservoirs and the distribution pipe network to deliver the water to each household or business.

WSZs in relation to key settlements in North West region are illustrated in Figure 2.2 below.

Figure 2.2 - Water Supply Zones and Key Settlements in the North West region

2.5 Temporal Scale

The RWRP-NW covers the supply demand balance (SDB) for WRZs within the EM region on a 25-year basis and is reviewed at least every five years. The RWRP-NW will be published in winter 2022, with 2020 as the base year of the study. The RWRP will cover the 25-year period until 2045.

2.6 Transboundary Effects

The RWRP–NW solely covers Irish Water's operational area for the North West and is therefore not a transboundary plan. However, potential transboundary issues or effects will be taken into consideration as part of the AA process. For the purposes of the assessment waterbodies are considered the main potential transboundary issue.

2.6.1 Identification of Options

The aim of the RWRP–NW is to allow Irish Water to maintain a balance between supply and demand. A supply demand balance forecast will enable the identification of any current or predicted water supply deficits from each WRZ. Using this information, a list of potential option types to address that deficit has been developed, as detailed in Table 2.1 below. The RWRP-NW methodology will assess the WRZ and the sources within them to identify options that could provide a sustainable, reliable source of water into the future.

Table 2.1 - Option types

RWRP category	RWRP sub-category	Summary
Lose Less		
Leakage Reduction		Reducing leakage from the network is a priority for Irish Water. This can involve a range of measures for actively detecting and repairing leaks such as the installation of meters to better identify customer leakage activity and advanced monitoring tools and techniques to better identify leaks. Leakage reduction will focus on targeted replacement of ageing pipes, pressure management to minimise fluctuations and excessive pressures providing more constant pressures to Irish Water customers whilst reducing bursts and the application of different leak repair approaches to minimise cost and disruption.
Use Less		
Water Efficiency	Education & Awareness	Environmental awareness/education campaigns and partnerships and distribution of educational materials to raise awareness of water shortages and encourage water conservation and efficiency.
	Water Efficiency Measures	Use of water efficient products and processes in new and refurbished housing developments and working with building standards to ensure that water efficiency measures are included in standards regulations as mandatory. Encouraging take up of water efficiency measures by domestic and non-domestic customers such as more efficient appliances, repair of leaking toilets, use of water audits. Actively pursue business customers and industry for partnerships that involve water efficiency goals. Investigate how to use water within Irish Water's existing assets more

RWRP category	RWRP sub-category	Summary
		efficiently through improved treatment processes and recycling of effluent water for appropriate uses.
	Recycling and Reuse	The recycling of treated wastewater or grey water provides a critical supplementary water source for non-potable activities therefore alleviating stress on primary water sources. Grey water refers to the water used in baths, sinks, washing machines, and other kitchen appliances. In periods of drought, when potable water is in short supply, grey water can be a potential alternative water source for activities such as agricultural and landscape irrigation, industrial process, and toilet flushing.
	Metering	Domestic water metering can build a better understanding of water use and network pressures to improve water efficiency and therefore water security and identify leaks. Water meters with advanced analytics to undertake flow balances across the network can allow Irish Water to gain a better understanding of the whole network from the abstraction point to the customers
Supply Smarter – resource supply options[4]		
Surface Water	Surface Water Abstraction	Increasing the abstraction at an existing river or lake source or developing a new river or lake source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.
Groundwater	Groundwater Abstraction	Increasing the abstraction at an existing groundwater source or developing a new groundwater source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.
	Aquifer Storage Recovery	Storage of treated or raw water in suitable aquifers. During times of plentiful water supply, excess water withdrawn from a river, lake or another groundwater source is injected and stored within an aquifer. This supplementary stored water can be extracted from the aquifer during periods of dry weather and/or increased demand when the primary supply sources are running low. This requires aquifers with suitable

[4] It is important to note that these option types are not necessarily alternatives to each other; in the majority of the WRZs a combination of options will be selected as the preferred / recommended approach. For example, surface water and groundwater abstractions can be used in combination, this is called conjunctive use and involves the storing of surface water in groundwater basin in wet years and withdrawing it from the basin in dry years. Additionally, most new or increased abstractions will involve upgrades to or construction of new WTPs and new or upgraded transfers.

RWRP category	RWRP sub-category	Summary
		characteristics to be available as the risks of losses can be high.
Reservoirs	Storage Reservoirs	Provision of storage reservoirs which can be filled with untreated water abstracted during high flow conditions from surface waters to be drawn on during low flow periods or to provide additional resilience during droughts as a back-up supply source.
Catchment Management	Catchment management for ground or surface water sources	Activities such as agriculture, forestry, industry and waste management all have an impact on the retention of water in the catchment and the quality of the water within rivers and loughs. Pollutants in the water can lead to ecological deterioration, increased flood risk and can also create issues for water treatment. There may be scope for changes to land management through working in partnership with landowners, farmers and regulators to develop agreements and share information and resources to provide long term improvements with wide benefits including water suitable for supply from surface or groundwaters.
Effluent Reuse	Effluent Reuse	Recycling of wastewater effluent from treatment plants can produce a new supply source from wastewater which is otherwise discharged to rivers or the sea. This involves treating wastewater to a sufficiently high standard to meet supply standards relevant for the intended use for example for agricultural/horticulture/industry/water supply or for release to rivers to maintain flows.
Desalination	Desalination: Coastal or Brackish	This involves the process of removing salt and other minerals from seawater or brackish water[5] river estuaries to make it suitable for human consumption and/or industrial use. The level of treatment required is related to the salt concentration of the water.
Water Transfers	Transfers	Water transfer is the physical movement of water from one area to another usually via pipelines, although other means such as canals or aqueducts can be used. These generally refer to the transfer of treated water and can vary considerably in scale in terms of size and length from local transfers from one WRZ to another, to regional transfers and inter-utility transfers (from Northern Ireland Water).
	Tankering	Delivery of treated water to customers via road tanker to alleviate temporary short-term water shortages in certain localised situations.
Network Improvements	Network Improvements (general)	Network improvement involves works such as upgrade, replacement or operational improvements. They are undertaken to facilitate better water distribution and avoid network limitations. Therefore, strategic network reinforcement improving connections between different sources and

[5] Brackish water is water that has more salt than freshwater, but not as much as seawater that is generally found in estuaries.

RWRP category	RWRP sub-category	Summary
		customer supply can significantly improve security and resilience.
	Service Reservoir Expansion	Service reservoirs store treated water. They are used to balance out the steady supply of treated water they receive from WTPs and the fluctuating variations in customer demand during a 24-hour period. They can also be used to store a backup supply in low flow events but for a limited period of time.
Water Treatment Plants	WTP Expansion/Rationalisation	Expansion of existing WTPs to facilitate the treatment of a higher volume of water. This option would be considered in-combination with an increase of a surface water or ground water abstraction or the provision of a new surface water our ground water source. Expansion of existing WTPs may be carried out as part of a rationalisation process which involves the merging of WTPs. Rationalisation is carried out to reduce water supply costs, take a malfunctioning WTP out of service or to cease abstraction from an unsustainable source.
	WTP Process Losses	For every litre of untreated water extracted from a source and fed through a water treatment plant to the supply distribution network, a small fraction of the water will be lost from the system as a result of the treatment losses. Generally, WTPs are designed to recover, treat and recycle as much of the waste stream as economically feasible. However, there can be opportunities to improve efficiency through the upgrading and installation of more complex treatment processes to reduce these process losses and therefore increase the Water Available For Use (WAFU).

2.7 Assessment Methodology Overview

As described in Chapter 8 of the Framework Plan all option types are considered and compiled into an “Unconstrained Options” list. The Unconstrained Options constitute all of the possible solutions, which either fully or partially resolve a water supply deficit, regardless of any cost, environmental or social constraints.

The Unconstrained Options list is refined using a Coarse Screening assessment which rules out any non-viable options. Each option is assessed in terms of their resilience, deliverability and flexibility, and sustainability (environmental and social impacts).

There is some overlap with the Birds Directive (2009/147/EC), the Habitats Directive (92/43/EEC) and the Water Framework Directive (WFD) (2000/60/EC) in relation to the protection of water dependent habitats and species. Under the WFD areas are designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant European sites. The linkages between the Birds and Habitats Directives (BHD) and the WFD were discussed in a document published by the European Commission (2011) which states:

“Any Natura 2000 site with water-dependent (ground- and/or surface water) Annex I habitat types or Annex II species under the Habitats Directive or with water-dependent bird species of Annex I or migratory bird species of the Birds Directive, and, where the presence of these species or habitats has been the reason for the designation of that protected area, has to be considered for the register of protected areas under WFD Art. 6. These areas are summarised as "water-dependent Natura 2000 sites". For these Natura 2000 sites, the objectives of BHD and WFD apply”.

Therefore, WFD waterbody status is taken into account by reviewing existing, new or increased abstractions and assessing whether these can meet allowable abstraction criteria. An allowable abstraction standard of 10% of Q95 is applied with the exception of waterbodies requiring “High” status where a higher threshold of 5% of Q95 is applied[6]. The application of these abstraction standards will help to ensure that any new or increased abstractions from rivers designated as SACs (which require “Good” and/or “High” status water quality) will align with the conservation objectives of these designated sites. Allowable abstraction standards for lakes are set at 10% of Q50 for “Moderate” status lakes and 5% of Q50 for “High” statues lakes respectively in line with the water quality standards applicable to lakes[6]. Further information on allowable abstractions, yield assessments and supply assessments is provided in the Framework Plan.

After the Coarse Screening Assessment, the remaining options, known as “Constrained Options” are carried forward for more detailed Multi Criteria Assessment at the Fine Screening Stage. This process requires a more detailed analysis of the options and their potential benefits and impacts across the key criteria. The output after the Fine Screening Stage is called the Feasible Options list.

The Feasible Options list is assessed against six approaches to result in the Preferred Approach options that meet the objectives of the Plan and aligns with all relevant Government policy.

[6] Two sources: (1) UK Environmental Standards and Conditions (Phase 1), (2008). UK Technical Advisory Group on the Water Framework Directive.
(2) Quinlan, C. & Quinn, R. (2018). Characterising environmental flows in Ireland and what this means for water resource management in Ireland. Irish National Hydrology Conference 2018

3 Appropriate Assessment Methodology

3.1 Stages of Appropriate Assessment

The methodology for undertaking assessment in relation to AA has evolved from European Commission (2021) guidance and Irish guidance from the former Department of Environment, Heritage and Local Government (2010). The entire process can be broken down into four stages (Article 42/43 of the Habitats Regulations 2011), as outlined below. If at any stage in the process it is determined that there will be no implications for the European site in view of the site's conservation objectives, the process is effectively completed. The four stages are:

Stage 1 - Screening for Appropriate Assessment (AA)/Test of Likely Significant Effects: Screening determines whether an AA is required by determining if the project or plan is likely to have a significant effect(s) on any European site(s) either alone or in-combination with other plans or projects, in light of the site's conservation objectives (see Figure 3.1).

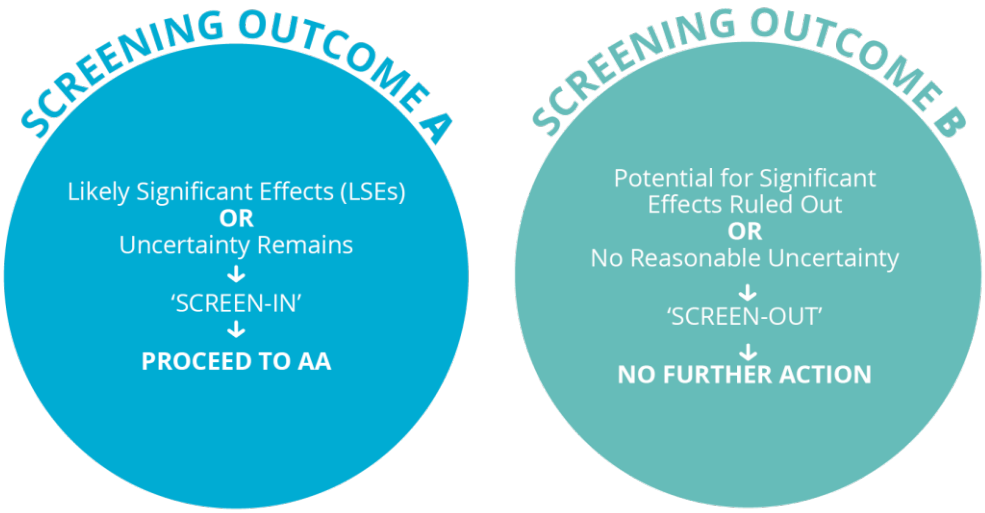

Figure 3.1 - Screening for AA

Stage 2 – Appropriate Assessment: If the screening has determined there are LSEs from the plan/project either alone or in-combination with other plans and projects on European Site(s) the implication for European sites are further assessed in the context of the implications for their conservation objectives and Adverse Effects on Site Integrity (AESI) analysed. If it is determined on further analysis and data gathering that the plan/project will not adversely affect the integrity of the relevant European site(s) then the Stage 2 Appropriate Assessment can conclude no AESI. However, if there are potential issues identified for the conservation objectives of the European site(s) then mitigation is required to protect the site's conservation objectives. The AESI analysis is re-run and considers the structure and function of European sites, their conservation objectives and effects from the project/plan both alone and in-combination with other projects or plans. Where AESI are identified, mitigation measures are proposed as required to avoid adverse effects on the integrity and conservation objectives of the European site(s). The information and data to inform the AA process is documented within a NIS. This is provided to the competent authority to facilitate their AA determination of the plan or project.

Stage 3 – Assessment of Alternative Solutions: Following AA, including mitigation proposals, if AESI remain, or uncertainty remains and the project/plan is to be progressed, an Assessment of Alternative Solutions is required under the provisions of Article 6(4) of the Habitats Directive. This process examines the alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the

integrity of the European site. If no alternatives exist, or all alternatives would result in adverse effects on the integrity of a European site, then either the process moves to the next stage or the project is abandoned.

Stage 4 – Imperative Reasons of Over-Riding Public Interest (IROPI): In the unlikely event where an Assessment of Alternative Solutions fails to identify any suitable alternatives, then for a project or plan to be progressed it must meet the requirements of IROPI. In this case the provisions of Article 6(3) cannot be met and therefore, the provisions of Article 6(4) are used. If in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed, thus compensatory measures are implemented to maintain the coherence of the European site network in the face of adverse effects to the integrity of the site(s).

3.2 Approach to AA of Regional Water Resources Plans

RWRPs are required to identify specific water resource options to address predicted SDB deficits in a given WRZ within a defined region. The approach to this AA Screening takes consideration of their strategic nature and uses objective information to determine whether the Plan, in this case a regional Plan, have LSEs for European sites in the manner outlined in *Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland* (Court of Justice of the European Union, Case C-6/04, Opinion of Advocate General Kokott)[7] and Waddenzee (Court of Justice of the European Union, C-127/02).

3.2.1 Application of the AA process at Plan level

In the context of AA Screening, when applying the 'test of significance' the test is of the "likelihood" of effects rather than the "certainty" of effects. In accordance with the Waddenzee Judgement[8], a likely effect is one that cannot be ruled out based on objective information and is underpinned by the precautionary principle and the test of beyond reasonable scientific doubt. This test therefore sets a low bar: a plan should be considered 'likely' to have an effect if the competent authority (in this case Irish Water) is unable (on the basis of objective information) to exclude the possibility that the plan could have significant effects on any European site, either alone or in-combination with other plans or projects. An effect is considered to be 'significant' if it could undermine a European site's conservation objectives.

The methodology for undertaking Screening for AA can be applied at both a project and plan level assessment. The suitability of the data and information used and any decisions flowing from its use in the RWRP-NW assessment have to meet the provisions and requirements of the Habitats Directive. The strategic assessments at the plan level will inevitably be undertaken at a higher level than would be the case for projects. However, the RWRP-NW does not provide consent for any future projects arising from it or future iterations of the plan but, demonstrates that the protection for the European site network is suitably considered and achievable in the context of the remit of the plan. Also, any future project level AA Screenings and/or NIS will have regard for the plan level AA Screening as the projects have been identified or specified from the RWRP-NW. To note, all of Irish Water's projects are screened for AA. Therefore, all projects arising from the RWRP-NW will additionally be required to go through individual environmental assessments (including AA Screening and if needed AA). These will be obligatory in support of planning applications (where a project requires planning permission) or in support of licensing applications (for example, for new or increased surface or groundwater abstractions).

[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62004CC0006 Accessed September 2021.
[8] [ECJ case C-127/02]

3.2.2 Compliance of the RWRP-NW development process with the Habitats Directive

The RWRP identifies needs in terms of quantity, quality and reliability, and uses the methodology (Option Assessment Methodology) in the Framework Plan to develop interventions to address this need. The AA Screening for the RWRP-NW has assessed at a high level the Options Assessment Methodology and the option types that are likely to arise from the RWRP-NW. The RWRP-NW identifies option types that could be applied across the North West region.

The AA Screening for the RWRP-NW therefore assesses the potential impacts on European sites of the RWRP-NW at a regional scale within the North West region.

Applying the above approach demonstrates that the development of the RWRP-NW is compliant with the requirements of the Habitats Directive.

3.3 Guidance documents in relation to Appropriate Assessment

The requirements of Article 6 of the Habitats Directive for the RWRP-NW have been applied following the guidance documents:

- AA of Plans and Projects in Ireland: Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2010a);
- Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. (Office of the Planning Regulator, 2021).
- Assessment of Plans and Projects in Relation to Natura 2000 Sites – Methodological Guidance on 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);
- 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);
- Marine Natura Impacts Statements in Irish Special Areas of Conservation. A Working Document (Department of Arts, Heritage and the Gaeltacht, 2012); and
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Commission, 2018).

The following circulars have also been used:

- AA under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10 (Department of Environment, Heritage and Local Government, 2010b);
- AA of Land Use Plans. Circular Letter SEA 1/08 & NPWS 1/08 (Department of Environment, Heritage and Local Government, 2008a);
- 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 (Department of Environment, Heritage and Local Government, 2007a);
- Guidance on Compliance with Regulation 23 of the Habitats Directive. Circular Letter NPWS 2/07 (Department of Environment, Heritage and Local Government, 2007b); and
- Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments. Circular L8/08 (Department of Environment, Heritage and Local Government,

2008b).

3.4 Guiding Principles and Case Law

A number of cases have been brought to both the national and European courts in relation to the AA process. Irish departmental guidance (Department of Environment, Heritage and Local Government, 2010a)[9] in relation to AA was published over 10 years ago. Therefore, recent case law has, in many cases, superseded this guidance. However, recent guidance from the OPR (2021)[10] in relation to AA Screening has now been published and considered in this assessment. Relevant case law, ECJ rulings and EC publications have also been considered in the preparation of the AA Screening for the RWRP-NW.

3.5 Identification of European Sites

Sites within the Natura 2000 Network are referred to as European sites and include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). SACs are designated for the conservation of Qualifying Interests (QI), Annex I habitats and Annex II species (other than birds). SPAs are designated for the conservation of Special Conservation Interest (SCI) Annex I birds and other regularly occurring migratory birds and their habitats.

Irish departmental guidance on the Zone of Influence (ZoI) to be considered during the AA stated the following:

"A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson et al., 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects".

However, the actual extent of the ZoI depends on the effect pathway, as well as the specific nature of different habitats/species for which a European site is designated including functional and supporting habitat (OPR, 2021). Therefore, for these reasons the ZoI must be scientifically defined and based upon further information.

As part of the desk-based assessment specific buffers will be used to identify the ZoI in relation to ground water abstraction Borehole and Zone of Contribution (ZOC) data will be obtained from the Geological Survey Ireland (GSI) database and used to determine existing ground water abstraction pressures on adjacent European sites. Where data is not available or proposed options consist of new boreholes a 5km buffer will be used to assess an abstraction as this is the greatest distance or ZOC as determined by GSI when assessing borehole abstractions. When assessing likely ZoI for all other options the "source-pathway-receptor" model will be applied. European sites with a hydrological link to any given option/study area will be considered to be within the ZoI. As such sites that are outside the boundary of the regional group may also be included in the assessment where there is an effects pathway.

The RWRP-NW covers the North West region of the Republic of Ireland. Therefore, all European sites within the North West region (core baseline area – see Section 3.5 of the SEA Scoping Report) and

[9] https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf Accessed September 2021

[10] https://www.opr.ie/wp-content/uploads/2021/03/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf Accessed September 2021

European sites with potential effects pathways located outside the region were initially considered to be potentially within the ZoI of the RWRP-NW.

3.5.1 Special Areas of Conservation

SACs cover a variety of habitat types recognised in Annex I of the Habitats Directive, with 16 habitats designated as “priority” habitats owing to their ecological vulnerability (NPWS, 2019a). Habitats for which SACs are designated include lakes, raised bogs, blanket bogs, turloughs, sand dunes, machair, heaths, rivers, woodlands, estuaries and sea inlets. In addition, the Habitats Directive recognises 28 Annex II species. Some of the species for which SACs have been designated include but are not limited to: Atlantic salmon (*Salmo salar*), otter (*Lutra lutra*), lesser horseshoe bat (*Rhinolophus hipposideros*), freshwater pearl mussel (*Margaritifera margaritifera*) and Killarney fern (*Trichomanes speciosum*). There are 433 SACs (terrestrial) in Ireland and of these 358 are water-dependent (Department of Housing, Planning and Local Government, 2018). These SACs support various habitats and species that are dependent on surface and/or groundwater sources. There are approximately 800 water bodies within European sites, all supporting water dependent habitats and species. A number of significant pressures on these water bodies have been identified (Department of Housing, Planning and Local Government, 2018), including:

- Agriculture;
- Hydromorphological pressures;
- Forestry;
- Urban wastewater;
- Anthropogenic pressures;
- Abstractions / Extractions; and
- Invasive species.

Of the pressures noted above, water abstraction is of particular relevance to the RWRP-NW. Water abstractions from both ground and surface water have been identified as being a potential threat to some Annex I habitats and Annex II species. As discussed in the Framework Plan NIS sustainable abstraction limits (for new surface water abstractions) have been set which will ensure the protection of these Annexed species and habitats. There are 215 SACs within the NW region.

3.5.2 Special Protection Areas

The majority of the wintering water birds and breeding seabirds occurring in Ireland are considered to be regularly occurring migratory birds. Over 60% of the 25 Annex I listed species that now occur in the Republic of Ireland on a regular basis belong to the breeding seabird and wintering waterbird groups. This has in part led to the situation of the majority (> 80%) of Ireland’s SPAs being designated for these two bird groups.

Some of the productive marine intertidal zones of bays and estuaries are included within SPAs and these provide vital food resources for several wintering wader species, including knot (*Calidris canutus*), dunlin (*Calidris alpina*) and bar-tailed godwit (*Limosa lapponica).* Also included in the SPA network are marine waters adjacent to breeding seabird colonies and other important areas for divers, seaducks and grebes.

Finally, a number of inland wetland sites and areas of blanket bog and upland habitats have also been designated as SPAs for wintering water birds. These sites provide important breeding and foraging areas

for numerous other species including merlin (*Falco columbarius*) and golden plover (*Pluvialis apricaria*). Agricultural land is also represented within the SPA network ranging from the extensive farmland of upland areas where hedgerows, wet grassland and scrub offer feeding and/or breeding opportunities for hen harrier (*Circus cyaneus*) to the intensively farmed coastal polderland where internationally important numbers of swans and geese occur. There are 65 SPAs within the NW region.

3.5.3 Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of annexed habitats and annexed species of community interest for which an SAC or SPA has been designated. The conservation objectives (COs) for a European site are set out to ensure that the QIs/SCIs of that site are maintained or restored to a favourable conservation condition. Maintenance of favourable conservation condition of habitats and species at a site level in turn contributes to maintaining or restoring favourable conservation status of habitats and species at a national level and ultimately at the European site network level.

Detailed site synopses for each European site are available from the NPWS website[11]. In Ireland 'generic' COs have been prepared for all European sites, while 'site specific' COs have been prepared for a number of individual sites to take account of the specific QIs/SCIs of that site. Both the generic and the site-specific COs aim to define the requirements for favourable conservation condition for habitats and species at the site level. Generic COs, which have been developed by NPWS, encompass the spirit of site-specific COs in the context of maintaining and restoring favourable conservation condition as follows:

- For SACs: "*To maintain or restore the favourable conservation condition of the Annex I habitats and/or Annex II species for which the SAC has been selected*".
- For SPAs: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA*".

Following on from this, favourable conservation status (or condition, at a site level) of a habitat is achieved when:

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

The favourable conservation status (or condition, at a site level) of a species is achieved when:

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

A full list of the COs and QIs/SCIs that each European site is designated for relating to the North West region, 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[12].

[11] https://www.npws.ie/protected-sites (Accessed September 2021)
[12] https://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives (Accessed Septemeber 2021)

4 Screening

4.1 Screening

This Screening for AA was informed by a desk study of all relevant environmental information and involved the following steps (broadly based on (European Commission, 2021)):

- Determined if the proposed Plan is directly connected with or necessary to the management of the site;
- Description of the proposed Plan;
- Identification of relevant European site(s);
- Assessment of likely significant effects (LSEs) on European sites; and
- Screening conclusion.

4.2 Is the RWRP-NW exempt from assessment?

The draft RWRP-NW is not directly connected with or necessary to the management of a European site and therefore is not exempt from assessment.

4.3 Description of the RWRP-NW

An overview of the RWRP-NW, including background and context are provided in Chapters 1 and 2 of this report.

4.4 Identification of European Sites within the NW region

As discussed in Chapter 3 all European sites within the North West region were initially considered to be potentially within the ZoI of the RWRP-NW, therefore potential LSEs on the conservation objectives for these sites will be considered. There is a total of 215 SACs and 65 SPAs within the NW region. There are a further five marine SACs and 19 marine SPAs that are not within the NW region boundary but are hydrologically linked to it. These sites are Inishtrahull SAC, Rathlin O'Birne Island SAC, Duvillaun Islands SAC, Inishkea Islands SAC, Hempton's Turbot Bank SAC, Inishkea Islands SPA, Inishmurray SPA, Stags of Broad Haven SPA, Inishbofin, Inishdooey and Inishbeg SPA, Inishglora and Inishkeeragh SPA, Inishtrahull SPA, Duvillaun Islands SPA, Inishduff SPA, Inishkeel SPA, Rathlin O'Birne Island SPA, Roaninish SPA, Illancrone and Inishkeeragh SPA, Ardboline Island and Horse Island SPA, High Island, Inishshark and Davillaun SPA, Slyne Head To Ardmore Point Islands SPA, Cruagh Island SPA, Bills Rocks SPA, West Donegal Islands SPA and Illaunonearaun SPA.

Table 4.1 below provides a breakdown of European sites within each Study Area within the NW region. All European sites within and in proximity to the NW region are shown in Figure 4.1 below.

Table 4.1 - Number of European sites within each Study Area[13] within the NW region

Study Area	No. of SACs	No. of SPAs
A	41	17
B	13	4
C	44	16
D	73	16

[13] Some SACs or SPAs fall within more than one study area

Study Area	No. of SACs	No. of SPAs
E	3	3
F	35	7
G	33	9

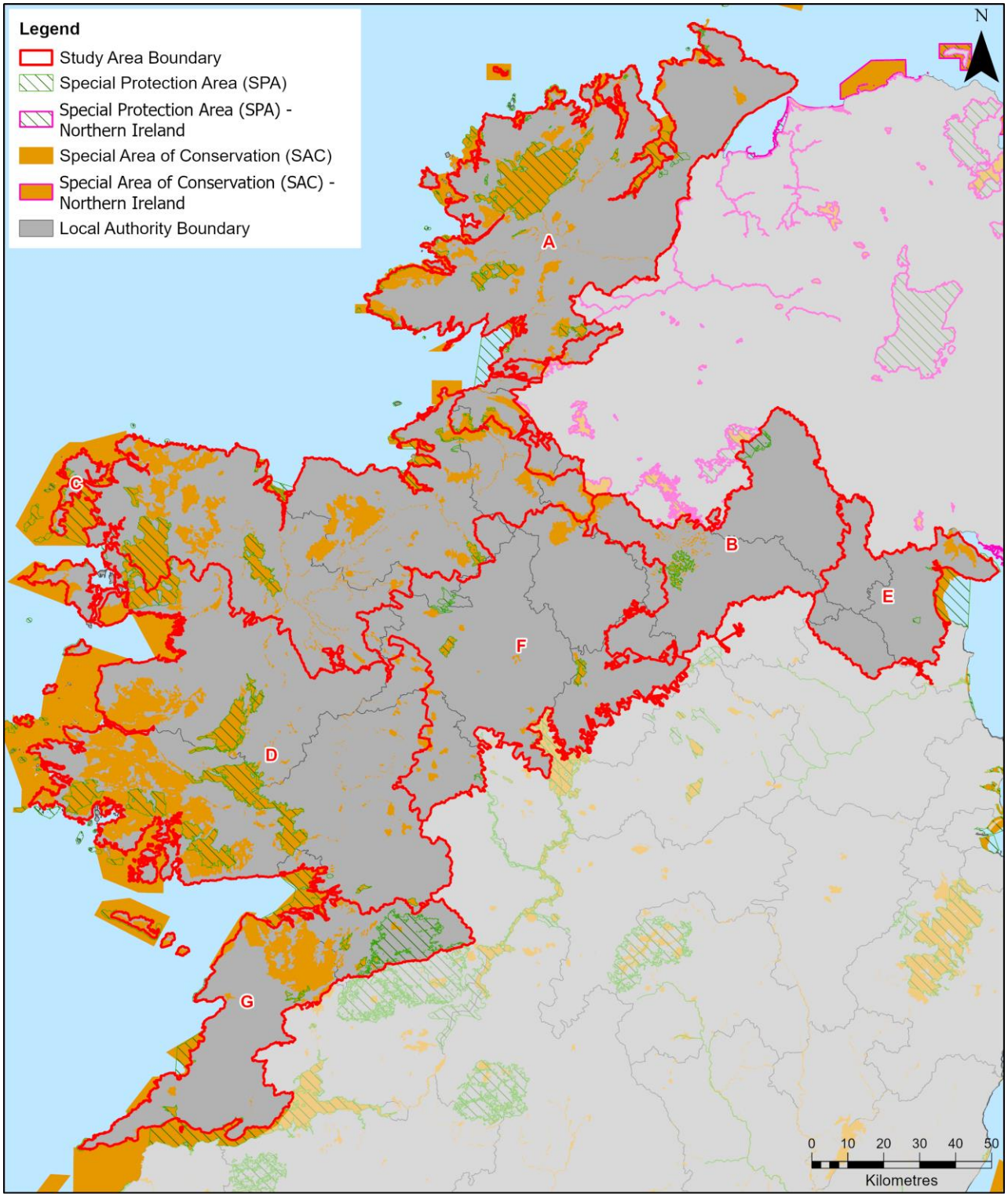

Figure 4.1 - European sites within the North West region

4.5 Assessment of Likely Significant Effects

The RWRP-NW methodology will identify suitable water resources management options for the various WRZs throughout the NW region. The water resources management option types that will arise from the RWRP-NW will potentially result in LSEs on European sites in the absence of mitigation. Therefore, a high-level assessment of the potential LSEs of these management option types is the focus of this assessment.

Table 4.2 outlines the potential LSEs associated with the various management options. It should be noted that a number of the options may have no effect on European sites, while others could have beneficial impacts on European sites, for example options that seek to improve overall water quality (for example, surface and/or groundwater catchment management). However, the implementation of the RWRP-NW may give rise to measures that could result in a variety of potential effects, including but not limited to:

- Physical loss of habitats/supporting habitat;
- Mortality;
- Habitat degradation - changes in water quality (pollution);
- Habitat degradation - hydrological/hydrogeological changes;
- Changes in hydrology - water table/availability;
- The spread of invasive non-native species; and
- Disturbance (including biological disturbance).

Table 4.2 - Potential LSEs from the management option types arising from the RWRP-NW

Option Type	RWRP sub-category	Summary	Potential for LSEs
Lose Less			
Leakage Reduction	N/A	Assessment and repair of pipelines to reduce leakage from existing network.	**Yes**. Although for the most part this option type should have the potential for positive impacts. There is still potential for direct and indirect effects on SACs and SPAs associated with the construction or upgrade of infrastructure to address leakage reduction.
Use Less			
Water Efficiency	Education & Awareness	Environmental education, campaigns, programmes and partnerships to raise awareness of water management and to encourage savings.	**Yes**. Although for the most part this option type should have the potential for positive impacts. There is still potential for direct and indirect effects on SACs and SPAs associated with the construction or upgrade of infrastructure to ensure water efficiencies. There is the potential for operational effects from grey water use. Reduction of potable water would have positive impacts however there is the potential for health risks from untreated grey water from the presence of bacteria for example. Some level of grey water treatment would be required therefore increasing costs of this option.
	Water Efficiency Measures	Methods of reducing water wastage.	
	Recycling and Reuse	Recycling and reuse of “grey water”.	
	Metering	Domestic water meters.	
Supply Smarter – Resource Supply Options			

Option Type	RWRP sub-category	Summary	Potential for LSEs
Surface Water	Surface Water Abstraction	Increasing the abstraction at an existing river or lake source or developing a new river or lake source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.	**Yes**. Where new or increased abstractions are required there is potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation. Aquatic and water dependent QI and their supporting habitats would be most at risk. Note: Irish Water undertake a cumulative assessment with Irish Water abstractions and proposed new abstractions as part of the assessment.
Groundwater	Groundwater Abstraction	Increasing existing groundwater abstraction or developing a new source from which water can be sustainably abstracted. These options would be subject to an abstraction licence.	**Yes**. Where new or increased abstractions are required there is potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation. Aquatic and ground water dependent QI species (and their supporting habitats) and groundwater dependent terrestrial habitats (GWDTHs) would be most at risk. Note: Irish Water undertake a cumulative assessment with Irish Water abstractions and proposed new abstractions as part of the assessment.
	Aquifer Storage Recovery	Storing treated or raw water in suitable aquifers for extraction during increased demand periods.	
Reservoirs	Storage Reservoirs	Provision of storage reservoirs which can be filled with untreated water abstracted during high flow conditions from surface waters to be drawn on during low flow	**Yes**. This option type could result, for example, in changes in hydrology potentially altering the aquatic environment. Affecting aquatic and water dependent

Option Type	RWRP sub-category	Summary	Potential for LSEs
		periods or to provide additional resilience during droughts as a back-up supply source	QI and their supporting habitats would be most at risk. Potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation.
Catchment Management	Catchment management for ground or surface water sources	Changes to land management such as forestry or agricultural practices to reduce pollution causing water treatment issues or to encourage water retention in the catchment.	**Yes**. Potential for positive impacts on aquatic receptors if water quality in the catchment is improved.
Effluent Reuse	Effluent Reuse	Recycling of wastewater effluent from treatment plants can produce a new supply source from wastewater which is otherwise discharged to rivers or the sea. This involves treating wastewater to a sufficiently high standard to meet supply standards relevant for the intended use for example for agricultural/horticulture/industry/water supply or for release to rivers to maintain flows.	**Yes**. This option type could result, for example, in changes in hydrology potentially altering the aquatic environment. Affecting aquatic and water dependent QI and their supporting habitats would be most at risk. Potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation.
Desalination	Desalination: Coastal or Brackish	This involves the process of removing salt and other minerals from seawater or brackish water[14] river estuaries to make it suitable for human consumption and/or industrial use.	**Yes**. Potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation. In particular, there is a risk from toxic effects associated with elevated salinity and desalination waste brine. Aquatic and water dependent QI and their supporting habitats would be most at risk.

[14] Brackish water is water that has more salt than freshwater, but not as much as seawater generally located in estuaries.

Option Type	RWRP sub-category	Summary	Potential for LSEs
Water Transfers	Transfers	Water transfer is the physical movement of water from one area to another usually via pipelines, although other means such as use of canals or aqueducts can be used. These generally refer to transfer of treated water and can vary considerably in scale in terms of size and length from local transfers from WRZ to another to regional transfers and inter-company transfers (from Northern Ireland).	**Yes**. Potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation. Note: the transfer of invasive species from one catchment to another is not considered a risk as Irish Water do not allow cross catchment raw water transfers.
	Tankering	Delivery of treated water to customers via road tanker to alleviate temporary short-term water shortages for certain localised situations.	
Network Improvements	Network Improvements (general)	Network improvement involves infrastructural improvements such as upgrade or replacement or operational improvements.	**Yes**. Although for the most part this option type should have the potential for positive impacts. There is still potential for direct and indirect effects on SACs and SPAs associated with the construction or upgrade of infrastructure for network improvements, reservoir expansion and to address leakage reduction.
	Service Reservoir Expansion	Service reservoirs store treated water.	
Water Treatment Plants	WTP Expansion / Rationalisation	Expansion of existing WTPs to facilitate the treatment of a higher volume of water.	**Yes**. Where new or increased abstractions are required there is potential for direct, indirect, construction, operational and cumulative effects on SACs and SPAs in the absence of mitigation. Aquatic and water dependent QI and their supporting habitats would be most at risk.
	WTP Process Losses	Improving the water treatment works efficiency to reduce water losses.	

4.6 In-combination Effects

Under Article 6(3) of the Habitats Directive an assessment of in-combination effects of the RWRP-NW with other plans and projects is considered. Consideration has been given, at this stage of the RWRP-NW to other relevant plans on a similarly strategic level that have clear potential to have an in-combination effect upon European Sites. Including the following:

- Water Services Strategic Plan (Irish Water, 2015).
- National Wastewater Sludge Management Plan (Irish Water, 2016).
- Lead in Drinking Water Mitigation Plan (Irish Water, 2015).
- National Planning Framework. Ireland 2040 Our Plan (DHPLG, 2017).
- National Marine Planning Framework (NMPF) (DHPLG, 2021).
- Regional Spatial and Economic Strategies.
- River Basin Management Plan (RBMP) (2018 -2021).
- Forestry Programme 2014-2020: Ireland (DAFM, 2014).
- Water Resource and Supply Resilience Plan – Habitats Regulation Assessment (NI Water, 2019).

Given the level of detail that is available for the RWRP-NW and the potential for likely significant effects, in-combination effects as a result of the implementation of the RWRP-NW cannot currently be ruled out.

4.7 Screening Conclusion

Stage 1 of the AA process (Screening for AA) described herein relates to the RWRP-NW. The RWRP-NW is a regional scale plan covering the North West region in the country.

Given the strategic nature of the RWRP-NW, the current stage of preparation and in light of a number of uncertainties relating to the implementation of the RWRP-NW going forward, it is considered that the potential for LSEs on one or more European sites, in view of the sites' conservation objectives, cannot be excluded. In the absence of more detailed information on the RWRP-NW and water resources management options listed therein at this stage, the precautionary principle must be applied.

Therefore, in accordance with Article 6(3) of the Habitats Directive, Stage 2 AA of the RWRP-NW is required. This will be presented in a NIS to fully inform the AA determination to be undertaken by Irish Water.

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Autumn 2022

UISCE ÉIREANN : IRISH WATER

Draft Regional Water Resources Plan–North West

Natura Impact Statement

Appendix B

Tionscadal Éireann
Project Ireland
2040

Jacobs

Data disclaimer: This document uses best available data at time of writing. Some sources may have been updated in the interim period. As data relating to population forecasts and trends are based on information gathered before the Covid 19 Pandemic, monitoring and feedback will be used to capture any updates. The National Water Resources Plan will also align to relevant updates in applicable policy documentation.

Baseline data included in the draft RWRP-NW has been incorporated from numerous sources including but not limited to; National Planning Framework, Central Statistics Office, Regional Spatial and Economic Strategies, Local Authority data sets, Regional Assembly data sets and Irish Water data sets. Data sources will be detailed in the relevant sections of the draft RWRP-NW. 2019 was selected as the base year to align with the planning period (2019-2025) of the NWRP.

B

Appendix B

List of European Designated Sites

Appendix B. List of Special Areas of Conservation and Special Protection Areas within the North West region

Special Areas of Conservation (SACs)	
Site code	**Site name**
002268	Achill Head SAC
001626	Annaghmore Lough (Roscommon) SAC
002341	Ardagullion Bog SAC
000111	Aran Island (Donegal) Cliffs SAC
000461	Ardkill Turlough SAC
002244	Ardrahan Grassland SAC
001403	Arroo Mountain SAC
002200	Aughrim (Aghrane) Bog SAC
001228	Aughrusbeg Machair And Lake SAC
000463	Balla Turlough SAC
002081	Ballinafad SAC
002295	Ballinduff Turlough SAC
000115	Ballintra SAC
000116	Ballyarr Wood SAC
000016	Ballycullinan Lake SAC
002199	Ballygar (Aghrane) Bog SAC
001975	Ballyhoorisky Point To Fanad Head SAC
000474	Ballymaglancy Cave, Cong SAC
001090	Ballyness Bay SAC
000019	Ballyogan Lough SAC
000622	Ballysadare Bay SAC
000994	Ballyteige (Clare) SAC
000996	Ballyvaughan Turlough SAC
002118	Barnahallia Lough SAC
001922	Bellacorick Bog Complex SAC
000466	Bellacorick Iron Flush SAC
002005	Bellacragher Saltmarsh SAC
000592	Bellanagare Bog SAC
000623	Ben Bulben, Gleniff And Glenade Complex SAC
000020	Black Head-Poulsallagh Complex SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
002032	Boleybrack Mountain SAC
000471	Brackloon Woods SAC
001656	Bricklieve Mountains and Keishcorran SAC
000472	Broadhaven Bay SAC
002346	Brown Bog SAC
000625	Bunduff Lough And Machair/Trawalua/Mullaghmore SAC
000238	Caherglassaun Turlough SAC
002294	Cahermore Turlough SAC
000595	Callow Bog SAC
002347	Camderry Bog SAC
000453	Carlingford Mountain SAC
002306	Carlingford Shore SAC
002293	Carrowbaun, Newhall and Ballylee Turloughs SAC
000597	Carrowbehy/Caher Bog SAC
000475	Carrowkeel Turlough SAC
002250	Carrowmore Dunes SAC
000476	Carrowmore Lake Complex SAC
001021	Carrowmore Point To Spanish Point And Islands SAC
001242	Carrownagappul Bog SAC
000242	Castletaylor Complex SAC
002243	Clare Island Cliffs SAC
001482	Clew Bay Complex SAC
002047	Cloghernagore Bog And Glenveagh National Park SAC
001899	Cloonakillina Lough SAC
000600	Cloonchambers Bog SAC
002348	Clooneen Bog SAC
000614	Cloonshanville Bog SAC
000479	Cloughmoyne SAC
000480	Clyard Kettle-Holes SAC
002034	Connemara Bog Complex SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
000218	Coolcam Turlough SAC
000252	Coole-Garryland Complex SAC
001107	Coolvoy Bog SAC
002349	Corbo Bog SAC
002110	Corliskea/Trien/Cloonfelliv Bog SAC
000979	Corratirrim SAC
000485	Corraun Plateau SAC
001251	Cregduff Lough SAC
001955	Croaghaun/Slievemore SAC
000255	Croaghill Turlough SAC
000129	Croaghonagh Bog SAC
000484	Cross Lough (Killadoon) SAC
000584	Cuilcagh - Anierin Uplands SAC
000627	Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC
002350	Curraghlehanagh Bog SAC
000604	Derrinea Bog SAC
002197	Derrinlough (Cloonkeenleananode) Bog SAC
001257	Dog's Bay SAC
000133	Donegal Bay (Murvagh) SAC
000492	Doocastle Turlough SAC
001497	Doogort Machair/Lough Doo SAC
000032	Dromore Woods And Loughs SAC
002338	Drumalough Bog SAC
002181	Drummin Wood SAC
000455	Dundalk Bay SAC
002303	Dunmuckrum Turloughs SAC
001125	Dunragh Loughs/Pettigo Plateau SAC
000138	Durnesh Lough SAC
001926	East Burren Complex SAC
001501	Erris Head SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
000607	Errit Lough SAC
000140	Fawnboy Bog/Lough Nacung SAC
000497	Flughany Bog SAC
000448	Fortwilliam Turlough SAC
000268	Galway Bay Complex SAC
000142	Gannivegil Bog SAC
001919	Glenade Lough SAC
000500	Glenamoy Bog Complex SAC
002180	Gortacarnaun Wood SAC
001271	Gortnandarragh Limestone Pavement SAC
000503	Greaghans Turlough SAC
001141	Gweedore Bay And Islands SAC
000147	Horn Head And Rinclevan SAC
000036	Inagh River Estuary SAC
000278	Inishbofin And Inishshark SAC
001275	Inisheer Island SAC
000212	Inishmaan Island SAC
000213	Inishmore Island SAC
001513	Keel Machair/Menaun Cliffs SAC
002320	Kildun Souterrain SAC
000504	Kilglassan/Caheravoostia Turlough Complex SAC
002264	Kilkee Reefs SAC
002111	Kilkieran Bay And Islands SAC
000458	Killala Bay/Moy Estuary SAC
001786	Kilroosky Lough Cluster SAC
000285	Kilsallagh Bog SAC
000286	Kiltartan Cave (Coole) SAC
001285	Kiltiernan Turlough SAC
001151	Kindrum Lough SAC
002265	Kingstown Bay SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
001669	Knockalongy and Knockachree Cliffs SAC
000516	Lackan Saltmarsh and Kilcummin Head SAC
002176	Leannan River SAC
000295	Levally Lough SAC
000296	Lisnageeragh Bog and Ballinastack Turlough SAC
001673	Lough Arrow SAC
001529	Lough Cahasy, Lough Baun And Roonah Lough SAC
001774	Lough Carra/Mask Complex SAC
000297	Lough Corrib SAC
002117	Lough Coy SAC
000299	Lough Cutra SAC
002177	Lough Dahybaun SAC
000163	Lough Eske and Ardnamona Wood SAC
000606	Lough Fingall Complex SAC
001818	Lough Forbes Complex SAC
000611	Lough Funshinagh SAC
000522	Lough Gall Bog SAC
001976	Lough Gill SAC
002164	Lough Golagh And Breesy Hill SAC
000633	Lough Hoe Bog SAC
000301	Lough Lurgeen Bog/Glenamaddy Turlough SAC
000428	Lough Melvin SAC
000634	Lough Nabrickkeagh Bog SAC
002135	Lough Nageage SAC
002119	Lough Nageeron SAC
000164	Lough Nagreany Dunes SAC
000165	Lough Nillan Bog (Carrickatlieve) SAC
000007	Lough Oughter And Associated Loughs SAC
000304	Lough Rea SAC
000440	Lough Ree SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
002287	Lough Swilly SAC
002165	Lower River Shannon SAC
000168	Magheradrumman Bog SAC
002008	Maumturk Mountains SAC
001880	Meenaguse Scragh SAC
000172	Meenaguse/Ardbane Bog SAC
000173	Meentygrannagh Bog SAC
001536	Mocorha Lough SAC
000054	Moneen Mountain SAC
002352	Monivea Bog SAC
000527	Moore Hall (Lough Carra) SAC
002202	Mount Jessop Bog SAC
000057	Moyree River System SAC
001179	Muckish Mountain SAC
000470	Mullet/Blacksod Bay Complex SAC
000612	Mullygollan Turlough SAC
002159	Mulroy Bay SAC
002129	Murvey Machair SAC
001932	Mweelrea/Sheeffry/Erriff Complex SAC
002144	Newport River SAC
002012	North Inishowen Coast SAC
000532	Oldhead Wood SAC
001309	Omey Island Machair SAC
000534	Owenduff/Nephin Complex SAC
002006	Ox Mountains Bogs SAC
000318	Peterswell Turlough SAC
000322	Rahasane Turlough SAC
002301	River Finn SAC
002298	River Moy SAC
000324	Rosroe Bog SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
001312	Ross Lake And Woods SAC
001311	Rusheenduff Lough SAC
002283	Rutland Island And Sound SAC
000185	Sessiagh Lough SAC
000326	Shankill West Bog SAC
001190	Sheephaven SAC
000525	Shrule Turlough SAC
000541	Skealoghan Turlough SAC
000542	Slieve Fyagh Bog SAC
000189	Slieve League SAC
000190	Slieve Tooey/Tormore Island/Loughros Beg Bay SAC
000328	Slyne Head Islands SAC
002074	Slyne Head Peninsula SAC
001913	Sonnagh Bog SAC
000191	St. John's Point SAC
001680	Streedagh Point Dunes SAC
001992	Tamur Bog SAC
000636	Templehouse And Cloonacleigha Loughs SAC
001321	Termon Lough SAC
001195	Termon Strand SAC
002031	The Twelve Bens/Garraun Complex SAC
002259	Tory Island Coast SAC
002179	Towerhill House SAC
000194	Tranarossan And Melmore Lough SAC
002354	Tullaghanrock Bog SAC
002343	Tullaher Lough And Bog SAC
002130	Tully Lough SAC
000330	Tully Mountain SAC
000637	Turloughmore (Sligo) SAC
000638	Union Wood SAC

Special Areas of Conservation (SACs)	
Site code	**Site name**
001898	Unshin River SAC
001571	Urlaur Lakes SAC
002998	West Connacht Coast SAC
000197	West Of Ardara/Maas Road SAC
002296	Williamstown Turloughs SAC

Special Protection Areas (SPAs)	
Site code	**Site name**
004133	Aughris Head SPA
004234	Ballintemple and Ballygilgan SPA
004101	Ballykenny-Fisherstown Bog SPA
004129	Ballysadare Bay SPA
004105	Bellanagare Bog SPA
004037	Blacksod Bay/Broad Haven SPA
004078	Carlingford Lough SPA
004052	Carrowmore Lake SPA
004136	Clare Island SPA
004005	Cliffs of Moher SPA
004181	Connemara Bog Complex SPA
004107	Coole-Garryland SPA
004220	Corofin Wetlands SPA
004142	Cregganna Marsh SPA
004212	Cross Lough (Killadoon) SPA
004035	Cummeen Strand SPA
004039	Derryveagh And Glendowan Mountains SPA
004151	Donegal Bay SPA
004235	Doogort Machair SPA
004013	Drumcliff Bay SPA
004026	Dundalk Bay SPA
004145	Durnesh Lough SPA
004149	Falcarragh to Meenlaragh SPA
004148	Fanad Head SPA
004194	Horn Head to Fanad Head SPA
004074	Illanmaster SPA
004221	Illaunnanoon SPA
004231	Inishbofin, Omey Island and Turbot Island SPA
004152	Inishmore SPA

Special Protection Areas (SPAs)	
Site code	**Site name**
004031	Inner Galway Bay SPA
004036	Killala Bay/Moy Estuary SPA
004119	Loop Head SPA
004050	Lough Arrow SPA
004051	Lough Carra SPA
004228	Lough Conn and Lough Cullin SPA
004042	Lough Corrib SPA
004056	Lough Cutra SPA
004057	Lough Derg (Donegal) SPA
004060	Lough Fern SPA
004087	Lough Foyle SPA
004048	Lough Gara SPA
004061	Lough Kinale and Derragh Lough SPA
004062	Lough Mask SPA
004110	Lough Nillan Bog SPA
004049	Lough Oughter Complex SPA
004134	Lough Rea SPA
004064	Lough Ree SPA
004075	Lough Swilly SPA
004146	Malin Head SPA
004182	Mid-Clare Coast SPA
004227	Mullet Peninsula SPA
004098	Owenduff/Nephin Complex SPA
004099	Pettigo Plateau Nature Reserve SPA
004089	Rahasane Turlough SPA
004077	River Shannon and River Fergus Estuaries SPA
004097	River Suck Callows SPA
004090	Sheskinmore Lough SPA
004168	Slieve Aughty Mountains SPA
004167	Slieve Beagh SPA

Special Protection Areas (SPAs)	
Site code	**Site name**
004187	Sligo/Leitrim Uplands SPA
004091	Stabannan-Braganstown SPA
004093	Termoncarragh Lake and Annagh Machair SPA
004073	Tory Island SPA
004034	Trawbreaga Bay SPA
004150	West Donegal Coast SPA