National Water Resources Plan

Strategic Environmental Assessment Scoping Report
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Irish Water
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# National Water Resources Plan

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Overview

Irish Water is developing the first National Water Resources Plan (NWRP) that will outline how we move towards a sustainable, secure and reliable drinking water supply for everyone over the next 25 years whilst safeguarding our environment. Irish Water recognises the need for a good quality, resilient water supply, for all its customers. The purpose of a NWRP is to provide a plan that will secure the availability of drinking water supplies across the country to meet current and growing future demands.

This first publication of the NWRP will involve the production of a Water Resource Management (WRM) optioneering assessment methodology. It will outline the steps to be taken so that the methodology can be applied in subsequent iterations of the NWRP. The second NWRP will be undertaken within the next five years.

This Strategic Environmental Assessment (SEA) Scoping Report forms part of the SEA for the NWRP. SEA is the process by which environmental considerations are taken into account during the preparation of Plans and Programmes prior to their finalisation. SEA is a legal requirement for plans and programmes under EU Directive (2001/42/EC) on the Assessment of Effects of Certain Plans and Programmes on the Environment or the “SEA Directive”. The SEA process can be defined by four stages as follows:

- **Stage 1 – Screening**: deciding whether an SEA is required;
- **Stage 2 – Scoping**: establishing the scope of the SEA and a decision-making framework that can be used to evaluate likely significant effects;
- **Stage 3 – Identification, Prediction, Evaluation and Mitigation of Likely Significant Effects**; and
- **Stage 4 – Consultation, Revision and Post-Adoption**. This includes the implementation of the SEA monitoring.

Screening for SEA for the forthcoming NWRP was undertaken in mid-2017 and the outcome of this screening process was that SEA is required for the NWRP. We are now at Stage 2 of the SEA process, Scoping. This SEA Scoping Report outlines information on the NWRP, including the need for the NWRP, its geographical area and overall objectives. The SEA Scoping Report is required to facilitate Statutory Consultation to ensure that the approach proposed for the SEA is appropriate. The focus of this SEA Scoping Report is to provide an overview of the baseline conditions (state of the environment) and future trends in addition to the key issue related to the NWRP. The report also outlines the draft SEA objectives and the assessment approach.

A copy of this report has been made available to the statutory Environmental Authorities in order for them to provide comment on the scope of the future assessment.

In addition to compliance with the SEA Directive, the preparation and implementation of the NWRP must meet the provisions of the EU Habitats Directive (92/43/EEC). Therefore, screening for Appropriate Assessment (AA) has been undertaken and the development of a Natura Impact Statement (NIS) is required.

Irish Water is seeking any additional information, not currently contained in the SEA Scoping Report, that should be considered, and any other comments or suggestions that should be considered from all stakeholders (as outlined above) at this stage.

The following Consultation Terms of Reference have been prepared in order to guide stakeholders in making a submission:
This SEA Scoping Report can be viewed and downloaded at [https://www.water.ie/nwrp](https://www.water.ie/nwrp).

Submissions or observations in relation to the scope and level of detail of the information to be included in the Environmental Report as outlined in this Scoping Report may be made on or before 5pm on Friday 22nd December 2017 as follows:

**By post:**
National Water Resources Plan,
Irish Water,
Colvill House,
24-26 Talbot Street
Dublin 1.

**By email:**
nwrp@water.ie

All written submissions or observations relating to this document should be submitted by Friday 22nd December 2017.

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**SEA Scoping Questions**

1. Do you have any suggestions that you would like Irish Water to consider in the preparation of its National Water Resources Plan (NWRP)?

2. Section 2.1 in Chapter 2 of the SEA Scoping Report outlines the objectives of the NWRP. Do you have any comments on these objectives?

3. Irish Water has reviewed plans, policies and programmes relevant to the NWRP in Chapter 3. Are there any others that should be considered?

4. Chapter 4 sets out the current baseline environment conditions and future trends. The environmental issues are summarised in Table 4.4. Do you have any comments on these?

5. Chapter 5 sets out the environmental objectives that will be used to assess the NWRP and its potential effects on the environment. Table 5.1 summarises these objectives. Have you any comments on these?

6. How would you like Irish Water to communicate with you as the plan progresses?
1 Introduction and Background

1.1 Introduction

Irish Water is Ireland’s national water utility responsible for providing water and wastewater services throughout the country. Irish Water’s mission is that all of our customers should receive a safe and reliable supply of drinking water and have their wastewater collected and safely returned to the environment. We will protect the environment in all our activities and support Ireland’s social and economic growth through appropriate investment in Water Services. Irish Water provides drinking water to approximately 80% of the population, delivering water through 60,000km of pipelines, while operating and maintaining approximately 850 Water Treatment Plants (WTPs).

Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) are both being undertaken on the NWRP as it has been determined, taking a precautionary approach, that the NWRP would have the potential, if unmitigated, to result in significant environmental effects. This SEA Scoping Report has been prepared to help communicate and define the scope of the environmental issues which are to be dealt with by the SEA, with the level of detail required to address these issues, as per the SEA Guidelines. The NWRP and SEA processes are described in more detail below.

1.2 Background to the National Water Resources Plan (NWRP)

Irish Water is now developing its first National Water Resources Plan (NWRP) that will outline how we move towards a sustainable, secure and reliable drinking water supply for everyone over the next 25 years whilst safeguarding our environment.

The preparation of the NWRP provides, for the first time, an opportunity to strategically plan the way that water services are delivered in Ireland at a national level.

The Water Services Strategic Plan (WSSP), Irish Water’s strategic plan for the next 25 years, identified a number of Implementation Plans (including the NWRP) which are being prepared by Irish Water following the approval of the WSSP by the Minister of the Environment, Community and Local Government in October 2015. Figure 1-1 shows the hierarchy of plans and the environmental and planning inputs to their development.

The preparation and implementation of the NWRP is an action identified in the WSSP. A key objective of the WSSP is to ensure a safe and reliable water supply. This objective has three strategic aims to:

- manage the sustainability and quality of drinking water from source to tap, to protect human health;
- manage the availability, sustainability and reliability of water supply now and into the future; and
- manage water supplies in an efficient and economical manner.

Irish Water recognises the need for a good quality, resilient water supply, for all its customers. The purpose of an NWRP is to provide a plan that will secure the availability of drinking water supplies across the country to meet current and growing future demands.

1.2.1 Need for the NWRP

Irish Water has a statutory responsibility to ensure the proper and effective management of water resources across the country, and to ensure all customers have access to drinking water.

In order to ensure this, Irish Water needs to identify where any existing or future issues may occur and provide sustainable, safe and cost-effective solutions. The NWRP will help Irish Water meet these objectives throughout Ireland so that people have access to drinking water while our natural environment is protected.
1.2.2 Purpose of the NWRP

The NWRP is a plan identifying how to provide safe, secure and reliable water supply to our customers for the next 25 years, while minimising adverse impact on the environment.

The objective of the NWRP is to set out how we intend to maintain the balance between supply and demand for drinking water over the short, medium and long term.

The following activities will be undertaken in development of the NWRP:

- Assess the availability of water resources at a national level (including lakes, rivers and groundwater).
- Assess the current and future water demand from homes, businesses, farms, and industry.
- Identify areas where there are current and potential water supply shortfalls taking into account normal and extreme weather conditions.
- Option types will be identified to help meet potential shortfalls in water supplies.
- Consider the impacts of climate change on Ireland’s water resources.
- Develop a drought plan identifying potential actions to be taken before, during and after a drought.
- Develop a plan that sets out how we deal with the material that is produced as a result of treating drinking water.

![Figure 1-1 Hierarchy of Irish Water Plans and Environmental/Planning Inputs](image)

### 1.3 Related Irish Water Plans and Strategies

As illustrated in Figure 1-1, the NWRP falls into a wider hierarchy of plans and strategies. The relevance or scope of some of these plans and strategies is explained below.
1.3.1 Water Services Strategic Plan

The WSSP is the highest tier Irish Water asset management plan as discussed in Section 1.2 and illustrated in Figure 1-1. It sets the overarching framework for detailed Implementation Plans including the NWRP and specific water services projects. The NWRP is just one of the Implementation Plans developed to achieve the objectives of the WSSP.

Two key aims of the WSSP are ‘reducing drinking water quality problems’ and to ‘manage the sustainability and quality of drinking water from source to tap to protect human health’. The NWRP will consider both these strategic aims during its development.

1.3.2 Other Related Tier 2 Plans

National Wastewater Sludge Management Plan (NWSMP)

The NWSMP is another Tier 2 Plan which sets out the long-term strategy for the management of wastewater sludge produced at Wastewater Treatment Plants (WwTPs) under the control of Irish Water.

Lead in Drinking Water Mitigation Plan

In 2015 the Government published the National Strategy to Reduce Lead in Drinking Water. The main aim of this strategy was to ensure the protection of human health and achieve a solution to the issue of lead in drinking water. As the national public water utility, Irish Water developed the Lead in Drinking Water Mitigation Plan in order to address the risk of failure to comply with the drinking water quality standard for lead due to lead pipework serving properties connected to the public water network.

1.4 Strategic Environmental Assessment

1.4.1 Legislative Requirements

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). The transposing Irish Regulations are:

- The European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011); and

The purpose of SEA is to enable plan-making authorities such as Irish Water to incorporate environmental considerations into decision-making at an early stage and in an integrated way throughout their plan-making process, and to:

- identify, evaluate and describe the likely significant effects of implementing the NWRP on the environment;
- ensure that identified effects are communicated and 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 in the NWRP development process.

Article 3(2) of the SEA Directive makes SEA mandatory for plans or programmes which are prepared for eleven different sectors: agriculture, forestry, fisheries, energy, transport, industry, tourism, land use, telecommunications, waste management, or water management. Therefore, the National Water Resources Plan has been ‘screened in’ for SEA, see Appendix A. SEA Screening Report.
1.4.2 The SEA Process

The SEA process is undertaken in four stages as detailed in Table 1-1. Stage 1 (Screening) is complete and we are currently at Stage 2 of the SEA process (Scoping).

Table 1-1 Stages of the SEA

<table>
<thead>
<tr>
<th>Stage</th>
<th>Purpose &amp; Requirements</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1: Screening</td>
<td>Prior to starting the SEA process a plan or programme undergoes ‘screening’ to determine whether it requires an SEA.</td>
<td>SEA Screening Statement – Irish Water (as the responsible authority) determined that SEA was required for the NWRP.</td>
</tr>
<tr>
<td>Stage 2: Scoping</td>
<td>Consideration of the context and objectives of the SEA, provides information on baseline data, identifies relevant environmental issues and trends, and defines the parameters of the scope of the SEA for the purpose of consultation.</td>
<td>SEA Scoping Report – this report</td>
</tr>
<tr>
<td>Stage 3: Identification, Prediction, Evaluation and Mitigation of Potential Effects</td>
<td>Within the context and parameters identified at the Scoping Stage, identification and evaluation of likely significant effects of the NWRP is carried out, including consideration of alternatives and determination of measures to mitigate and monitor residual effects.</td>
<td>SEA Environmental Report</td>
</tr>
<tr>
<td>Stage 4: Consultation, Revision and Post-Adoption</td>
<td>Consultation with statutory consultees and the public. This may require changes to the Draft NWRP and SEA Environmental Report in light of responses. Implementation of the monitoring programme; this will also aid any future review / revision of the NWRP and the SEA.</td>
<td>SEA Statement</td>
</tr>
</tbody>
</table>

1.5 Purpose of the SEA Scoping Report

This SEA Scoping Report is the second stage of the SEA process, as illustrated in Table 1-1, and sets out the baseline conditions of the study area and the key issues relevant to the development of the NWRP. This report is also recognised as being an appropriate way to consult with people and organisations about the scope, approach and contents of the environmental assessment.

The purpose of this SEA Scoping Report for the NWRP is to:

- outline the NWRP;
- describe the environmental characteristics of the Study Area and to present the initial understanding of the key environmental issues relating to the NWRP;
- propose a framework of SEA Strategic Environmental Objectives (SEOs) to inform the next stage of the SEA process;
- outline the potential external influences on the NWRP;
- set out a draft SEA assessment approach;
- outline potential interrelationships; and
- seek feedback from stakeholders (statutory and non-statutory) on the above.
The legislation requires that the SEA Scoping Report be sent to statutory Environmental Authorities for consultation. This report will be sent to the following Environmental Authorities as specified in the SEA Regulations:

- Environmental Protection Agency (EPA);
- Department of Housing, Planning, and Local Government (formerly the Department of Environment, Community and Local Government);
- Department of Culture, Heritage and the Gaeltacht (formerly the Department of Arts, Heritage and Gaeltacht Affairs);
- Department of Agriculture, Food and the Marine;
- Department of Communications, Climate Action and Environment (formerly the Department of Communications, Energy and Natural Resources); and
- Northern Ireland Environment Agency (NIEA) (transboundary related).

SEA Scoping does not include all of the detailed baseline information that will be taken into account during the assessment. However, some preliminary baseline information has been identified and described within this report, such that the level of detail for the SEA can be agreed. Potential sources of baseline information have been presented and any further information which may be relevant is requested at this stage to inform the next stage of the SEA. Any data gaps experienced will be reported in Stage 3 of the SEA (the SEA Environmental Report).

There are six main sections in this report as detailed in Table 1-2 below.

<table>
<thead>
<tr>
<th>Table 1-2 Scoping Report Structure</th>
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<tbody>
<tr>
<td><strong>SEA Section</strong></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
</tr>
<tr>
<td>1 – Introduction and Background</td>
</tr>
<tr>
<td>2 – Development of the NWRP and Integration of the SEA</td>
</tr>
<tr>
<td>3 – Review of Relevant PPPs</td>
</tr>
<tr>
<td>4 – Baseline Environment</td>
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<tr>
<td>5 – Proposed Scope of Assessment and SEA Objectives</td>
</tr>
<tr>
<td>6 – Next Steps</td>
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</table>

1.6 **Appropriate Assessment**

In addition to compliance with the SEA Directive, the preparation and implementation of the NWRP must meet the provisions of the EU Habitats Directive (92/43/EEC) and associated Irish transposing regulations (European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)). As a ‘competent authority’ Irish Water must ensure that its NWRP meets these requirements.

If the NWRP may cause a likely significant effect on one or more European sites (i.e. Special Area of Conservation or Special Protection Area), either alone or in combination with other schemes, plans or projects, the NWRP must be subject to Appropriate Assessment (AA). In accordance with Article 6(3) of the Habitats Directive, Irish Water will need to undertake AA of its Draft NWRP and update where needed for the
final NWRP. The NWRP can only be agreed after it has been ascertained that it will not adversely affect the integrity of any European sites and, if appropriate, after having obtained the opinion of the general public.

The AA process has four stages as follows:

- **Stage 1 Screening**: identifies whether (1) the NWRP is directly connected with or necessary for the management of European site/s (hereafter referred to as European sites'), either individually or in combination with other plans or projects and/or (2) it has likely effects, alone or in combination with other projects or plans, and considers whether these effects are likely to be significant;
- **Stage 2 Appropriate Assessment**: the assessment of the effects of the NWRP (alone and in combination with other plans and projects) on European sites such that a conclusion can be made as to whether the NWRP will affect site integrity, taking into account mitigation measures.
- **Stage 3 Assessment of alternative solutions**: where alternatives are identified and consideration is given to their effects in comparison to those in the NWRP.
- **Stage 4 Assessment where no alternatives exist and adverse effects remain**: provides an assessment of imperative reasons of overriding public interest and compensatory measures required.

To comply with this Directive, it must be first established, through an initial screening assessment, whether: (1) the NWRP is directly connected with or necessary for the management of a European site for nature conservation; and (2) it is likely to have a significant adverse effect on a European site, either individually or in combination with other plans or projects. The NWRP is not directly connected with or necessary for the management of European sites and therefore AA screening will focus on the potential for significant effects on European sites that may arise due to the implementation of the NWRP.

The AA process will be undertaken concurrently with the SEA, but both processes will be clearly distinguished and the AA will be documented in an AA Screening Statement and Natura Impact Statement (NIS) for the NWRP.

1.7 Consultation

As part of this SEA scoping process for the NWRP and in accordance with Article 11 of S.I. No. 435 of 2004, the SEA Environmental Authorities as well as any relevant transboundary authorities (e.g. Northern Ireland Environmental Agency) will be notified that a submission or observation in relation to the scope and level of detail of the information to be included in the environmental report may be made to Irish Water.

This SEA Scoping Report will be issued to the statutory Environmental Authorities as outlined in Section 1.5.

Public consultation will be undertaken for six weeks from Thursday 9th November to Friday 22nd December 2017 during which time the SEA Scoping Report can be viewed and downloaded at https://www.water.ie/nwrp.

The key stakeholder groups identified for this phase of engagement include the following:

- Environmental Authorities;
- Interested stakeholders;
- Elected Representatives;
- Local Authorities;
- Media; and
- General public.

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1 “European site” replaced the term ‘Natura 2000 site’ under the EU (Environmental Impact Assessment and Habitats) Regulations 2011 S.I. No. 473 of 2011.
Irish Water is seeking any additional information, not currently contained in the SEA Scoping Report, that should be considered, and any other comments or suggestions that should be considered from all stakeholders (as outlined above) at this stage.

The following Consultation Terms of Reference have been prepared in order to guide stakeholders in making a submission:

**SEA Scoping Questions**

1. Do you have any suggestions that you would like Irish Water to consider in the preparation of its National Water Resources Plan (NWRP)?

2. Section 2.1 in Chapter 2 of the SEA Scoping Report outlines the objectives of the NWRP. Do you have any comments on these objectives?

3. Irish Water has reviewed plans, policies and programmes relevant to the NWRP in Chapter 3. Are there any others that should be considered?

4. Chapter 4 sets out the current baseline environment conditions and future trends. The environmental issues are summarised in Table 4.4. Do you have any comments on these?

5. Chapter 5 sets out the environmental objectives that will be used to assess the NWRP and its potential effects on the environment. Table 5.1 summarises these objectives. Have you any comments on these?

6. How would you like Irish Water to communicate with you as the plan progresses?

Submissions will not be individually responded to but will be summarised in a Consultation Report which will be published on [www.water.ie/nwrp](http://www.water.ie/nwrp).

All submissions made on the SEA Scoping Report will be reviewed and relevant feedback incorporated into the environmental reports. Submissions from individuals will be reported anonymously and feedback from organisations will be attributed to them.

Irish Water will refer to the environmental reports when preparing the draft National Water Resources Plan. In summer of next year, the draft NWRP will go on display for an 8-week statutory public consultation, before being reviewed and finalised later that year.

The SEA Environmental Report will be published alongside the draft NWRP and will outline the assessment stage including effects of options and proposed mitigation.

The Environmental Authorities and public will be consulted with at the Draft NWRP and SEA Environmental Report stage as required under the SEA Regulations.

Submissions or observations in relation to the scope and level of detail of the information to be included in the Environmental Report as outlined in this Scoping Report may be made on or before 5pm on Friday 22nd December 2017 as follows:

**By post:**
National Water Resources Plan,
Irish Water,
Colvill House,
24-26 Talbot Street
Dublin 1.

**By email:**
nwrp@water.ie

Irish Water would value your response to the questions posed throughout this SEA Scoping Report.
2 Development of the NWRP and Integration of the SEA

As outlined in Section 1, the NWRP will help Irish Water to meet the objective of providing access to drinking water while protecting our natural environment for people throughout Ireland.

2.1 Objectives of the NWRP

Through the initial review that has been undertaken to date for the NWRP we are able to identify areas that IW can target to ensure robust assessments on water supply and demand or option development that can be made in future plans. This first NWRP will ensure suitable option assessment methodologies are in place so that subsequent NWRPs can make further, more detailed recommendations on water resource management using these robust methodologies. The objectives of the first NWRP are to:

- Develop a validated inventory of Water Resource Zones (WRZs)\(^2\) to be used as the basis for water resource planning on a national basis.
- Produce robust option assessment methodologies to assess these WRZs and the sources within them, in order to provide a sustainable, reliable source of water into the future, in terms of:
  - water available for use;
  - current and future demand;
  - climate change impact;
  - Supply Demand Balance (SDB);
  - identification and assessment of options to meet deficits;
  - environmental impact; and
  - option selection and recommendations.
- Develop a plan that sets out how we deal with the waste material that is produced as a result of treating drinking water.
- Develop a Drought Plan, which will set out the approach to monitoring and identifying a drought, and the actions that will be required to ensure that we can continue to protect water supplies and the environment.
- Develop a Plan that will outline how Irish Water will provide a resilient, good quality water service to all consumers on a sustainable, economic and environmental basis, over the next 25 years.

2.1.1 Identification of Water Resource Management (WRM) Options

The aim of the NWRP is to allow Irish Water to maintain a balance between water supply and demand. An outline SDB forecast is being undertaken to enable the identification of any current or predicted water supply deficits from each WRZ.

To meet these deficits a list of potential option types has been developed as detailed in Table 2-1 below. The first NWRP will produce a robust option assessment methodology to assess the WRZ and the sources within them, in order to identify options (as outlined in Table 2-1) that could provide a sustainable, reliable source of water into the future.

<table>
<thead>
<tr>
<th>NWRP Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Transfers</td>
<td>Transferring water from an unused source or from an area of surplus water to an area of deficit by means of trunk main, aqueduct, or even by tankerising.</td>
</tr>
<tr>
<td>New or enhanced abstractions</td>
<td>New locations for surface water or groundwater abstractions, or increasing the abstraction from existing sources.</td>
</tr>
</tbody>
</table>

\(^2\) The largest possible zone in which all resources, including external transfers, can be shared and all customers experience a similar risk of supply failure from a resource shortfall.
<table>
<thead>
<tr>
<th>NWRP Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservoirs</td>
<td>A large natural or artificial lake used as a storage space for raw water with man-made banks or natural topography.</td>
</tr>
<tr>
<td>Groundwater Aquifer Storage Recovery</td>
<td>Storing of water in groundwater aquifers for extraction during increased demand periods.</td>
</tr>
<tr>
<td>Effluent Reuse</td>
<td>The process of converting wastewater from a wastewater treatment plant into water which can be reused for other purposes.</td>
</tr>
<tr>
<td>Desalination</td>
<td>The process of removing salt and other minerals from seawater to make it suitable for human consumption and/or industrial use.</td>
</tr>
<tr>
<td>Demand Management</td>
<td>Water conservation and increased use of water efficiency measures which may include leakage reduction, metering and marketing campaigns to raise awareness.</td>
</tr>
<tr>
<td>Conjunctive Use</td>
<td>Combining surface water abstraction and groundwater abstraction to allow periods for aquifer recovery and avoid surface water abstraction in low flow periods.</td>
</tr>
<tr>
<td>Surface and/or Groundwater Catchment Management</td>
<td>Water quality issues can reduce water resource availability. Therefore, changes to land management or agricultural practices can improve water quality which could increase water resource availability and also reduce water treatment requirements and associated costs.</td>
</tr>
<tr>
<td>Water Treatment Plant</td>
<td>Improvement to WTP capacity, efficiency or deployable output.</td>
</tr>
</tbody>
</table>

### 2.1.2 Geographical Scale of the NWRP

The NWRP covers Irish Water’s operating area, Ireland. The first stage of the NWRP process is defining the WRZs within the country. 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 approximately 400 WRZs identified based on the level of interconnectivity.

WRZs are normally made up of a number of Water Supply Zones (WSZs). Each 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 Ireland are illustrated in Figure 2-1 below. It is important to note that these are WSZs at the time of this SEA Scoping Report and the zones may change prior to publishing of the Draft NWRP. There are a number of reasons why the WSZs may change. For example, Irish Water are continuously updating their GIS database to more accurately reflect the system as Group Water Schemes are taken into Irish Water’s supply system, new connections are added, sources are rationalised and supplied from other larger WTPs and supply boundaries are changed as network problems are identified and rectified.
Figure 2-1 Water Supply Zones and Key Settlements
2.1.3 Temporal Scale

In line with the WSSP, the NWRP covers a 25-year basis and is reviewed at least every five years though more frequently in the early years. The NWRP will be published in summer 2018, with 2016 as the base year of the study.

2.2 Scope of the SEA

2.2.1 The SEA Study Area

The broad Study Area for the SEA covers the entirety of the land mass of Ireland (including Northern Ireland) and will also assess any potential effects on the surrounding water environment and/or cumulative and transboundary effects where applicable.

2.2.2 Transboundary Considerations

The NWRP solely covers Irish Water’s operational area. While there are currently very minor imports from NI Water and the NWRP will be considering transfers as an option type, the Plan will not be making any recommendations on water resource planning in Northern Ireland. and is therefore not a transboundary plan. However potential transboundary issues or effects will be taken into consideration under the SEA. For the purposes of this study, water bodies are the main potential transboundary issue. The North Western River Basin District and Neagh Bann River Basin District cross the land boundary into Ireland. Many catchments in Northern Ireland also cross the land boundary into Ireland.

2.3 Stages of the NWRP and the SEA

The SEA process will be fully integrated into the development of the NWRP and more specifically the options assessment methodology.

Figure 2-2 illustrates the integration between the NWRP development and the SEA and the AA processes.
Figure 2-2 NWRP and SEA Integration
SEA Scoping Questions - Section 2

1. Do you have any suggestions that you would like Irish Water to consider in the preparation of its National Water Resources Plan (NWRP)?

2. Section 2.1 of the SEA Scoping Report outlines the objectives of the NWRP. Do you have any comments on these objectives?
3 Review of Relevant Plans, Policies and Programmes

3.1 Introduction

SEA requires a review of other plans, policies and programmes (PPP) to ensure that the relationship with these other documents and requirements is explored and evaluated. This review will also identify potential conflicts between the NWRP objectives and other PPP objectives/aims. Our understanding of the potential future land use changes in the Study Area will be based, in the short to medium term, on the published statutory and non-statutory spatial planning documents produced by Government and the Planning Authorities.

The list of relevant PPPs and a summary of the key documents reviewed can be found in Appendix B. Table 3-1 summarises the SEA topics and the PPP of relevance to these.

Table 3-1 Summary of the Policy, Plan and Programme (PPP) review

<table>
<thead>
<tr>
<th>Theme</th>
<th>PPP</th>
</tr>
</thead>
</table>
| All Aspects | - EU Sustainability Policy  
- Our Sustainable Future, a Framework for Sustainable Development for Ireland (2012)  
- Strategic Environmental Directive (2001/42/EC) and associated Irish legislation  
- Environmental Impact Assessment Directive (2014/52/EU) and associated Irish legislation  
- Water Services Act 2013  
- Ireland 2040 Our Plan - National Planning Framework (draft 2017)  
- National Spatial Strategy (NSS) 2002-2020  
- Regional Spatial and Economic Strategies (RSES)  
- County and Local Area Development Plans  
- National Planning and Development Act and Regulations |
| Population, Economy, Tourism and Recreation & Human Health | - Aarhus Convention  
- Drinking Water Directive (98/83/EC)  
- WHO Guidelines for Drinking Water Quality  
- Irish Water - Water Services Strategic Plan 2015  
- Irish Water - National Wastewater Sludge Management Plan  
- Irish Water - Lead in Drinking Water Mitigation Plan  
- EU Tourism Policy  
- National Countryside Recreation Strategy  
- Tourism Policy Statement  
- Tourism Action Plan 2016-2018  
- County-based recreation strategies |
- River Basin Management Plans  
- Bathing Water Directive (2006/7/EC)  
- Floods Directive (2007/60/EC)  
- Nitrates Directive ((91/676/EEC) |
<table>
<thead>
<tr>
<th>Theme</th>
<th>PPP</th>
</tr>
</thead>
</table>
| Biodiversity, Flora and Fauna             | • International and EU Conventions  
• EU Biodiversity Strategy, 2011  
• The Habitats Directive (92/43/EEC)  
• The Birds Directive (2009/147/EC)  
• Wildlife Act 1976 - 2010  
• European Communities (Birds and Natural Habitats) Regulations 2011 as amended  
• Other National Biodiversity related regulations  
• National Biodiversity Plan  
• County & City Heritage Plans |
• Infrastructure and Capital Investment Plan 2016-2021  
• Waste Management Acts 1996 - 2005  
• Regional/County-based waste management strategies and mineral plans |
| Landscape and Visual Amenity              | • European Landscape Convention  
• A National Landscape Strategy (NLS) for Ireland  
• County Landscape Character Assessments |
| Air Quality & Noise                       | • Ambient Air Quality Directive (2008/50/EC)  
• Noise Directive (2002/49/EC) |
| Climate Change                            | • The Kyoto Protocol  
• Paris Agreement 2015  
• EU Energy and Climate (2020) Package 2009  
• The Climate Action and Low Carbon Development Act 2015  
• Climate Change Adaptation Framework  
• Ireland’s National Policy Position on Climate Action and Low Carbon Development (2014)  
• National Renewable Energy Action Plan  
• Offshore Renewable Energy Development Plan |
| Cultural Heritage (Archaeological and Architectural) | • EU Conventions on Archaeological, Architectural and cultural heritage  
• Planning and Development Acts  
• Heritage Act  
• National Monuments Act  
• Architectural Heritage and Historic Monuments Act |
3.1.1 Key Influences

Of particular relevance to the development of the NWRP is the Water Framework Directive (WFD) and its associated River Basin Management Plan (RBMP) currently in draft format for the implementation of the second cycle. The WFD establishes a standard EU strategic approach to managing surface water bodies, groundwater, wetlands and to meet common environmental objectives.

The WFD environmental objectives for surface waters include:
- prevent deterioration;
- aim to achieve good ecological status (or for Artificial or Heavily Modified Water Bodies, good ecological potential);
- aim to achieve good chemical status;
- aim to reduce/cease emissions, discharges and losses from priority substances and priority hazardous substances; and
- meet protected area objectives where relevant.

The WFD environmental objectives for groundwater include:
- prevent deterioration of status;
- aim to achieve good quantitative status;
- aim to achieve good chemical status;
- prevent or limit the input of pollutants;
- reverse significant upward trends in the concentration of pollutants; and
- meet protected area objectives where relevant.

More details on the WFD and the current baseline for the water environment are presented in Section 4.3 of this SEA Scoping Report.

<table>
<thead>
<tr>
<th>Theme</th>
<th>PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Heritage Plans</td>
<td></td>
</tr>
<tr>
<td>Planning and Development Act</td>
<td></td>
</tr>
<tr>
<td>Action Plan for Rural Development</td>
<td></td>
</tr>
</tbody>
</table>

SEA Scoping Questions – Section 3

3. Irish Water has reviewed plans, policies and programmes relevant to the NWRP in Chapter 3. Are there any others that should be considered?
4 Baseline Environment

4.1 Introduction

This chapter describes the baseline environment of the study area. The baseline is simply the environmental condition in the absence of the proposed plan at a defined point in time and provides a benchmark to assess the likely significant environmental effects. This SEA Scoping Report outlines the environmental sensitivities and trends that are considered relevant to WRM at the strategic scale. This was based on baseline datasets which have been made readily available from web-based searches and other GIS information.

Reference has been made to the EPAs State of the Environment Report published in November 2016. This report provides:

- an assessment of the overall quality of Ireland’s environment;
- an outline of the pressures being placed on this environment; and
- the key actions that can address these pressures.

The report recognises the importance of the natural environment and that the overall quality of Ireland’s environment is good. However, the report also acknowledges that many environmental issues such as air quality and water pollution can be more localised and can be subject to masking by the national level assessments and that the environment faces many challenges, particularly as the economy begins to grow (EPA, 2016). Section 4.2 to Section 4.13 includes an overview of the overarching state of the environment based on the EPA assessment, as relevant to the development of the NWRP (within the grey boxes). The seven key actions aimed to address the associated pressures (EPA, 2016) are also presented (within the yellow boxes).

4.2 Population, Economy, Tourism and Recreation, and Human Health

4.2.1 Introduction

Population

The 2016 Census recorded the population of Ireland to be over 4.7 million. The population of Ireland has been rising continuously since the 1960s, resulting in a constant increase in the demand for water. This is attributed to increasing birth rates, decreasing death rates, an increase in life expectancy and a decrease in net migration (Central Statistics Office (CSO), 2016).

The change in population within the administrative counties of Ireland in the last five years is illustrated in Figure 4-1; this also gives a good indication of the change in demand for water in each area. The largest population increase was seen in Fingal and the biggest decrease in population was seen in Donegal. Almost all counties experienced some level of population growth with the exception of Donegal, Mayo and Sligo. Figure 4-1 also illustrates a clear geographic trend with population reduction experienced in the west of the country and increases in the south and east, and significant increases in the Dublin area.

Population density is continually increasing in Ireland, but the biggest growth is occurring in urban areas as the rural to urban shift continues. Approximately 80% of the population increase between 2011 and 2016 was in urban areas. The density average in 2011 was 1,736 people per km² increasing to 2,008 in 2016 for urban areas; and 26 people per km² in rural areas increasing marginally to 27 in 2016 (EPA, 2016). In April 2016, 44% of Ireland’s urban population lived in Dublin, and 11% in Cork. The highest rate of urbanisation was seen in County Sligo, and the largest rural population increase in Cork, followed by Kildare. As the urban populations continue to grow there is continued strain on urban water services to meet demand in

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2 An urban area refers to towns with a total population of 1,500 or more. Similarly, the term rural area refers to the population outside urban areas and includes towns with a population of less than 1,500 persons.
these areas. Population density across Ireland (from the 2011 census) is illustrated in Figure 4-2. This figure indicates where the key settlements in Ireland are and in turn where the greatest demands for water are likely to be.

Figure 4-1 Percentage Population Change per county in Ireland 2011 - 2016
(cso.ie, Census of Population 2016 - Preliminary Results, Geographic Changes, accessed 28/06/2017)
The population of Ireland has increased by over 30% between 1996 and 2016. The percentage change in age groups within Ireland between 1996 and 2016 is shown in Table 4-1 below. It can be seen from these that the population of Ireland is getting older. There is a notable decrease in those under 25 years old,
particularly those aged 15-24 (30%), and the highest increase is among those aged 45-64 (22%). The impacts of an aging population on the demand for water is not fully known, however it is recognised that an aged population could be more vulnerable to the potential threat of increased water scarcity.

Table 4-1 Population breakdown by Age Group (%) 1996-2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 14 years</td>
<td>23.7</td>
<td>21.14</td>
<td>-10.80%</td>
</tr>
<tr>
<td>15 – 24 years</td>
<td>17.45</td>
<td>12.11</td>
<td>-30.60%</td>
</tr>
<tr>
<td>25 – 44 years</td>
<td>28.02</td>
<td>29.53</td>
<td>-5.39%</td>
</tr>
<tr>
<td>45 – 64 years</td>
<td>19.41</td>
<td>23.84</td>
<td>22.82%</td>
</tr>
<tr>
<td>65+ years</td>
<td>11.41</td>
<td>13.39</td>
<td>17.35%</td>
</tr>
</tbody>
</table>

(cso.ie, Census 2016: (Summary Results Part 1) Population at Each Census 1926 to 2016 by Sex, Census Year and Age Group, accessed 26/06/2017)

The number of households in Ireland has been steadily increasing since 1971 with over 1.7 million private households registered in Ireland in 2016 with the average number of persons per household at 2.7 (CSO, 2016). The rise in the number of urban households over rural has been much more apparent, as illustrated in Figure 4-3. During the same period the average number of persons per household was steadily decreasing until 2011 when the number of households began to rise again. Households in rural areas have remained larger than those in urban areas since the mid-late 1970s by approximately 0.1 persons per household. As households get smaller the demand for water per household would in turn be expected to decrease. However, with increasing household numbers requiring a potable water supply, comes increasing water demand which is likely to be seen in urban areas more than rural areas as indicated in Figure 4-4.

Overall it can be shown that the population of Ireland is increasing along with the number of households, particularly in urban areas. Fewer people per household was the trend up to 2011 with a slight reverse since that time.

![Total Number of Households vs Household Size 1971-2016](image)

(cso.ie, Census 2016: (Profile 1 – Housing in Ireland) Average Number of Persons per Private Household in Permanent Housing Units 1971 to 2016 by County, Aggregate Town or Rural Area and Census Year, accessed 26/06/2017)

In 2016, 7.9% of the population was registered unemployed (CSO, 2016). This is an increase in the 10-year period since 2006 when unemployment was 5.3%, but an improved scenario from the previous census in 2011 when unemployment was 11.8% (CSO, 2016). The breakdown of the employment sector in the Ireland is as follows (CSO, 2016):
14% in wholesale and retail trade;
13% in industry;
13% in human health and social work;
8% in education;
7% in construction;
7% in accommodation and food services;
6% in professional, scientific and technical; and
<5% in administrative & support services, agriculture, forestry & fishing, education, financial, insurance & real estate, information & communication, transportation & storage and public administration & defence which collectively make up the remaining 32% of the workforce.

The percentage of the population working in each employment sector has changed over the last 10 years in most instances in the region of 1-2%, however, the largest shift was seen in the construction sector which decreased from 12% in 2006 to 7% in 2016 (most likely to be as a result of the global recession in 2008) and in the human health and social work sector which increased from 10% to 13% over the same period. Increases and decreases in employment within sectors with high water usage such as agriculture and industry between 2006 and 2016 were not significant with no change noted for agriculture and a 1% decrease from 2006 level for industry.

There were some consistencies between the change of employment by sector and the change in the number of people attaining education in that field of study between 2011 and 2016, which may indicate trends for future employment and economic growth of business sectors. The largest increase in employment was seen in Human Health and Social Work between 2006 and 2016 and similarly the largest increase in people obtaining qualifications was seen within this field between 2011 and 2016. Similarly, there were increases in the number of people gaining qualifications in Education, Financial, Insurance and Real Estate, and Information and Communication; and reduced numbers attaining qualifications in the fields of Construction and Industry. Therefore, it is expected that there will be similar trends in the growth of employment within particular sectors in future.

**Economy**

The Irish economy grew rapidly during the 1990s until 2008; this period of rapid growth was often referred to as the ‘Celtic Tiger’. Following the global economic recession in 2008, economic growth reduced by almost 16% compared to 2006, in the period 2008-2009. Since 2010 however, the Irish economy has recovered considerably, with a period of steady and rapid economic growth, in particular since 2013. In 2016, National GDP\(^4\) in the country was close to recovering to the level of GDP from 2007 which was at the peak of the ‘Celtic Tiger’ years (CSO, 2016).

**Tourism and Recreation**

Tourism and recreation are important to the health and wellbeing of people but also contribute to the economy at a local and national level. Tourism is a very important sector in Ireland, delivering revenues of over €8bn to the economy (RTE, 2016). In 2016 10.3 million overseas visitors came to Ireland spending €5.3bn. 286,300 people were employed in the tourism industry in 2016.

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\(^4\) GDP is the best way to measure a country’s economy. It is the total value of all goods produced and services provided by all people and companies (either by Irish or foreign-owned companies).
with the industry accounting for 10% of all Irish jobs (Tourism Ireland, 2016).

Following the economic recession, tourism in Ireland was impacted and revenues dropped and did not return to the same level until 2014. In 2011, the government launched a number of initiatives such as ‘The Gathering’ and ‘the Wild Atlantic Way’ which have resulted in growth in the tourism sector in recent years. Ireland’s Ancient East is the newest promotional campaign which aims to bring in revenues of €204 million by 2020.

Many of Ireland’s most popular tourist attractions are reliant on water whether it be water usage or the natural water environment. Many recreation activities are also dependent on water quality and quantity. Activities such as boating, canoeing, fishing and other water sports rely on certain flows of water and the water quality is essential for the health of bathers and other water users. The quality of the water environment is also important for other land-based recreation activities at water sites such as walking and cycling, as coastal waters, lakes, rivers, canals and wetlands are popular locations for nature trails. Protection of the water environment is of importance to the Irish tourism industry.

**Human Health**

The health of the population within Ireland is generally ‘Good’ to ‘Very Good’ based on the Healthy Ireland Survey 2016, published by the Department of Health. 84% of the population aged 15 and older perceived their health to be in very good health, whilst 3% perceived their health to be in bad or very bad health.

Good quality drinking water is key to good public health and as of 2014 Irish Water is responsible for supplying approximately 80% of the population with clean drinking water from public water supplies (Irish Water, 2015). The remainder of the population is supplied by public or private group water schemes, and other private supplies such as wells.

Under the EU (Drinking Water) Regulations 2014 (S.I. No. 122 of 2014) Irish Water must monitor public water supplies and report to the EPA of drinking water non-compliances or risks to public health from a public water supply. Compliance with E.coli standards is very good in Ireland; in 2016 99.7% of supplies complied with the standard, with only three supplies exceeding the standard. E.coli detections have reduced by 94.2% since 2007 (EPA, 2016). Compliance with Trihalomethanes (THMs) (by-product of the disinfection process) is lower, with 92% of supplies complying with the standard, and 59 supplies exceeding. It is important to note that compliance has been improving in recent years from 87% to 92% between 2012 and 2016. (EPA, 2010 and 2016).

### 4.2.2 Future Trends

**Population**

The population throughout the study area is predicted to increase during the 25-year lifespan of the NWRP. According to CSO projections, the population is to exceed 5 million by 2025 and 5.5 million by 2045. Over the plan period the percentage of people living in urban areas will increase from approximately 63% to 77% and the population density per square km will increase to approximately 84 persons per km² (CSO, 2016).

The government has set out key strategic goals for employment within the Action Plan for Jobs 2017. Some of the key aims are to: create 200,000 jobs by 2020, 135,000 of which need to be outside Dublin; drive productivity; and deliver competitive regions to drive regional employment. The government has also identified cluster sectors for growth including; Agri-Food and Marine, Retail, Design, Construction and Housing, and Financial Services. Meeting SDB is key to achieving these goals.
The draft National Planning Framework was published for consultation in September 2017. This plan will be used to guide future development in Ireland up to 2040.

**Economy**

The Government's Capital Investment Plan (GCIP) 2016-2021 outlines the investment in capital infrastructure over that period. The GCIP combines investment from the Exchequer, Public Private Partnerships and State-owned investment accumulating to €27 billion published by the Department for Public Expenditure and Reform (DPER).

The economic growth experienced in the Irish economy over the last few years is anticipated to grow consistently throughout the plan period.

The education attainment figures give a good indication of sectorial economies which are set to continue to grow in the coming years in Ireland. Healthcare and Accommodation and Food industries will be reliant on a secure supply of water and therefore increased demand looks likely to continue. Similarly, a high increase in the number of qualifications obtained in Information and Communication could have an impact on water demand; there has been an increasing number of companies looking at Ireland as a potential location for data centres, which are potentially large water-users.

As the population grows and the economy strengthens it is likely that increased water supply will be needed in order to facilitate this growth. As expected the greatest demand will be in the urban areas.

**Tourism and Recreation**

Revenues from the tourism industry have increased in the last 10 years and with the Tourism Action Plan 2016-2018 intention to invest €55 million in the Irish tourism industry, it is anticipated that this growth will continue.

Many of the County Development Plans report that the growth of tourism plays a major role in future development. In addition, infrastructure plans such as those at Dublin Airport (a new runway) and Dublin Port (increased cruise liner capacity) will facilitate increased tourist numbers into Ireland.

The National Strategy for Angling Development 2015-2020 governs the protection of angling infrastructure, and delivers a range of investments, innovations and promotions up to 2020.

It is unknown how Ireland’s tourism business from Britain may be affected by the decision of the UK to leave the European Union.

**Human Health**

The aging population of Ireland is likely to put increased pressure on health care systems and water usage. The health of the population is inextricably linked to a healthy environment; it is reliant on access to clean water. EU drinking water standards should ensure that drinking water quality continues to improve, in turn improving human health.

The government is aware of ongoing health trends and in 2013 the Healthy Ireland Framework was adopted by the government in response to Ireland’s changing health and wellbeing profile. The four high-level goals to improve health in Ireland set out by Healthy Ireland going forward, are:

- increasing the proportion of Irish people who are healthy at all stages of life;

**Key Action: Community Engagement (EPA, 2016)**

Keep communities informed, engaged and provide support in terms of the protection and improvement of the environment.

**Key Action: Environmental Health & Wellbeing (EPA, 2016)**

Recognition of the link between good quality environment and health benefits.
• reducing health inequalities;
• protecting the public from threats to health and wellbeing; and
• creating an environment where every sector of society can play its part in achieving a healthy Ireland.

4.2.3 Key Issues relating to the NWRP

The key issues in relation to Population, Economy and Human Health are:

• Population and economic growth will increase the demand for water within Ireland.
• Age structure, household sizes, growth in education and employment in particular business sectors may also influence water requirements within Ireland.
• Growth in the tourism industry and the continued number of international tourists coming into the country will influence the demand for water within Ireland and increasing security of supply of water will aid development of the tourism industry.
• The location of important tourist attractions and recreational areas will influence the location of water resource options.
• The construction of water resource options may cause temporary disruption to tourist attractions or recreational areas in the form of noise, disruption to services/utilities and traffic etc.
• Potential for loss/gain of public amenity as a result of development.
• Health risks associated with the inability to provide clean/safe drinking water.
• Patterns for settlement and economic growth will influence the demand for water and in turn the location of water resource options.
• The construction of water resource options may cause temporary disruption to the local community in the form of noise, dust, disruption to services/utilities and traffic etc.
• Public perception of water resource options and concerns regarding potential loss of public amenity or property value as a result of development associated with water resources.

4.2.4 Baseline information Sources for the SEA

The assessment in relation to Population, Economy, Tourism and Recreation, and Human Health will utilise the following information sources:

• OSI Mapping;
• CSO;
• Health Service Executive (HSE);
• Department of Health;
• World Health Organization (WHO);
• National Spatial Strategy 2002-2020 (including the new National Planning Framework);
• GCIP 2016-2021;
• Irish Water - Water Services Strategic Plan;
• Department of Transport, Tourism and Sport;
• Fáilte Ireland; and
• National Trails Office.

4.2.5 Scope of the Assessment

Population increases and the ability to continue to supply clean and safe drinking water are not only a driver for this Plan but vital to the health of the population and the economic development of the country. Therefore, Population, Human Health and the Economy are scoped in to the SEA.

The NWRP will directly deal with the security of water supply in Ireland and future WRM options could affect the enjoyment of areas for tourism and recreation, either directly or indirectly, positively or negatively. Direct impacts could include severance of footpaths, changes to water levels or water quality. Subtler, indirect changes could include changes to the landscape character, altering the attraction or perception of an area. Some water resource options could have the potential to create opportunities for further recreation. Therefore, tourism and recreation are scoped in to the assessment.
4.3 Water Environment

4.3.1 Introduction

Ireland’s rivers, lakes, estuaries, seas and groundwater provide water to sustain many of our core social and economic activities whilst providing drinking water to the population. In Ireland there are over 70,000km of river channel, 12,000 lakes, 850km$^2$ of estuaries and 13,000km$^2$ of coastal water (EPA, 2016). Groundwater is abundant in Ireland and provides 20-25% of all water supplies (EPA, 2016).

Water Framework Directive

One of the key instruments in the protection of water resources is the WFD. This directive aims to maintain high and good status waters and prevent deterioration in the status for all water bodies, including rivers, lakes, estuaries, coastal waters and groundwater. The WFD is transposed into Irish law by a number of regulations, including:

- European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003);
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (S.I. No. 272 of 2009);
- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010);
- European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010 (S.I. No. 610 of 2010);
- European Communities (Technical Specifications for the Chemical Analysis and Monitoring of Water Status) Regulations, 2011 (S.I. No. 489 of 2011); and

The RBMP produced as part of the WFD requirements is key to the protection, improvement and sustainable management of the water environment in Ireland. The first six-year cycle ran from 2009 – 2015 and prepared plans and programmes of measures for each of the eight River Basin Districts in Ireland. The 2nd cycle of RBMPs 2015 – 2021 have merged the Eastern, South Eastern, Western, South Western and Shannon Districts to form one national RBD. The North Eastern, North Western and Neagh Bann RBDs remain the same and a single administrative area will be established in the Republic of Ireland for these areas. The consultation period for the Draft RBMP closed in August 2017 with the final plan due to be published by the end of 2017.

WFD Status

There are 3,192 rivers, 818 lakes, 195 transitional waterbodies, 111 coastal waterbodies and 515 groundwater bodies classified as WFD waterbodies. (EPA - Catchments.ie). Of these 34 are heavily modified and there are also 11 artificial water bodies. WFD classification consists of chemical and ecological status. There are five classes of status for surface water bodies, and the status is determined by that of the poorest quality element. Table 4-2 summarises the WFD status of all water bodies including surface and groundwater over the period 2010-2015.

### Table 4-2 WFD Status of Rivers, Coastal Waters, Estuaries, Lakes and Groundwater (2013-2015)

<table>
<thead>
<tr>
<th>Waterbody Type</th>
<th>High</th>
<th>Good</th>
<th>Moderate</th>
<th>Poor</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rivers</td>
<td>10.4%</td>
<td>44.6%</td>
<td>27.2%</td>
<td>17.6%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Coastal</td>
<td>23%</td>
<td>53%</td>
<td>19%</td>
<td>5%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Over 50% of Irish river and coastal waters are at good or high status but over 50% of estuarine and lacustrine waters are at moderate or less status. A long-term trend that has been previously observed is the decline in the number of high status river water bodies (DHPLG, 2017).

It is generally understood that mercury and polycyclic aromatic hydrocarbons (PAH) are widespread in the environment, a trend seen globally and in the EPA monitoring data for the WFD. In addition, four of the 297 water bodies were at poor chemical status for exceedances in standards for metals (cadmium, lead and nickel), two pesticides (atrazine and simazine) and the plasticiser Di(2ethylhexyl)-phthalate (DEHP) (DHPCLG, 2017).

**WFD Protected Areas**

Protected areas under the WFD are areas that have been designated as needing special protection because of their particular sensitivity. The register of protected areas required under Article 6 includes the following types of protected areas:

**Table 4-3 WFD Protected Areas**

<table>
<thead>
<tr>
<th>WFD Protected Area</th>
<th>Description</th>
<th>Current Trend Draft RBMP 2018-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking Water Sources</td>
<td>Designated areas for the abstraction of water intended for human consumption under Article 7.</td>
<td>The quality of drinking water following treatment for over 99% of samples complied with microbiological and chemical standards. Of the 1,277 public water supply sources 61 indicated elevated levels of pesticides and three indicated elevated levels of nitrate.</td>
</tr>
<tr>
<td>Shellfish Areas</td>
<td>Designated areas for the protection of economically significant aquatic species.</td>
<td>Dissolved metals complied with the Environmental Quality Standards (EQS) for the period 2009-2015 in most instances. The majority of designated shellfish waters are meeting the E. coli guide values.</td>
</tr>
<tr>
<td>Bathing Waters</td>
<td>Bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC.</td>
<td>128 out of a total of 134 (93.4%) of bathing waters met the EU mandatory values.</td>
</tr>
<tr>
<td>Nutrient Sensitive Areas</td>
<td>Areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC.</td>
<td>Of the 72 agglomerations, 47 were identified as having areas downstream showing evidence of nutrient sensitivity.</td>
</tr>
<tr>
<td>Water-Dependent Habitats or Species</td>
<td>Designated areas for the protection of habitats or species where the maintenance or improvement of the</td>
<td>There are 44 different water-dependent habitat types and 22 water-dependent species, of these:</td>
</tr>
</tbody>
</table>
Strategic Environmental Assessment Scoping Report

<table>
<thead>
<tr>
<th>WFD Protected Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>status of water is an important factor in their protection, including relevant Natura 2000 sites designated under Directive 92/43/EEC (1) and Directive 79/409/EEC (2) and codified by Directive 2009/147/EC.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Trend Draft RBMP 2018-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five water-dependent habitats (11%) are deemed to be at Favourable Conservation Status; and</td>
</tr>
<tr>
<td>Eleven water-dependent species (50%) are at Favourable Conservation Status.</td>
</tr>
</tbody>
</table>

**WFD Risks and Pressures**

The Draft RBMP outlined that of the water bodies assessed to date:

- 41% are “Not at Risk”;
- 32% are “At Risk” of not meeting their environmental objective of good or high status; and
- 27% are currently under review.

A number of pressures have been identified and outlined in the Draft RBMP as follows and those in bold are of particular relevance to the NWRP:

- Agriculture
- Domestic Waste Water Systems
- Urban Waste Water
- Urban Runoff
- Forestry
- Extractive Industry; Industry, Waste
- Invasive Species
- Physical Modification
- Abstractions/Diversion
- Historically Polluted Sites

It is a requirement of the WFD that waters used for the abstraction of drinking water are protected so as to avoid deterioration in quality. The EPA have identified stretches of some rivers and lakes as rivers/lakes for drinking water and the entire Republic of Ireland is protected as groundwater for drinking water. In addition, the WFD requires that abstractions of surface water or groundwater which are likely to have a significant effect on water status are regulated. Under the recent Draft RBMP the following measures were outlined:

- The EPA will undertake further assessment of the 4% of water bodies identified as potentially at risk of over-abstraction;
- The Department for Housing, Planning, and Local Government (DHPLG) proposes to progress legislative proposals to establish a register for water abstractions greater than 25m³/day; and
- DHPLG will consult on a framework for the regulation of relevant abstractions with the view to progressing the necessary legal and administrative regulation to ensure continued sustainable use of our water resources.

**Groundwater Directive**

In Ireland, groundwater sources account for 20-25% of drinking water. The EU Groundwater Directive (2006/118/EC) transposed by the European Union (Drinking Water) Regulations 2014 provide the EPA responsibility to manage the quality of public water supply. Irish Water must notify the EPA of drinking water non-compliances or risks to public health from public water supply (EPA, 2016).

The WFD also provides requirements for preventing the deterioration of groundwater, therefore groundwater bodies are assessed over a six-year cycle. Between 2010-2015, 9% of groundwater bodies had poor chemical or quantitative status, a decrease on the first RBMP cycle (2003-2008) when 14% of groundwater bodies recorded poor status. There are two classes of ecological status in groundwater: Good and Poor.
**Floods Directive**

Flooding is becoming a bigger issue in Ireland; the frequency of flood events has been increasing and with climate change, is expected to increase further. Increased flooding can cause pressure on drains and sewers and can affect water quality.

The EU Floods Directive (2007/60/EC) required member states to develop Flood Risk Management Plans for areas of existing and future potentially significant flood risk. The Floods Directive was transposed into Irish law by the EU (Assessment and Management of Flood Risks) Regulations 2010, and sets out the responsibilities of Office of Public Works (OPW). The OPW has been implementing the Directive mainly through the Catchment-based Flood Risk Assessment and Management (CFRAM) Programme, through which 29 draft FRMPs have been developed. Approximately 300 Areas for Further Assessment (AFAs) have been established and a range of measures to reduce or manage the flood risk within each catchment. CRFAMS mapping for all AFAs is available to view on the CRAMS website (http://maps.opw.ie/floodplans/fhr_map/en/).


The Marine Strategy Framework Directive (MSFD) is similar to the WFD but it provides for the protection of the marine environment beyond the areas considered under the WFD. The MSFD requires Ireland to reach good environmental status (GES) in the marine environment by the year 2020. Since 2016 a programme of measures (POM) and monitoring programme have been in place to facilitate the overarching aim of the directive which is to protect and preserve the marine environment.

4.3.2 Future Trends

The target of 13.6% improvement in ecological status for surface waters within the RBMP from 2009 to 2015 has not been achieved. Therefore, there is a need to improve the implementation of the new water management planning in the 2nd cycle RBMP.

Climate Change could also alter the water environment of Ireland significantly. Rising sea levels, hotter, drier summers, ocean acidification and ocean deoxygenation are the key pressures on the water environment. The most obvious direct impact is changes in river flows. Flood events are also likely to become more frequent; these are likely to seriously affect marine and coastal ecosystems and existing water infrastructure.

4.3.3 Key Issues relating to the NWRP

The key issues in relation to the Water Environment are:

- Potential to affect or impede the WFD objectives from the construction and operation of water resource options.
- Potential for climate change and the effects of climate change such as increased flooding or drought to impede Irish Water’s ability to meet water supply.

4.3.4 Baseline information Sources for the SEA

The assessment in relation to water will use information from the following sources:

- EPA - WFD Data; and
- Catchment Flood Risk Assessment and Management (CFRAM) Study and associated FRMPs (OPW, 2016).
4.3.5 Scope of the Assessment

The NWRP has the potential to influence the quantity and quality of water within surface water and groundwater bodies such as rivers and lakes, through abstraction or discharges. The assessment may also need to consider the potential transboundary effects on water catchments and river basins which are located both in Ireland and Northern Ireland. Therefore, the Water Environment (surface and ground) is scoped into the assessment.

4.4 Biodiversity, Flora and Fauna

4.4.1 Introduction

There are a number of Nature Conservation designations in Ireland at an International, European and National level including:

- At International level:
  - UNESCO (United Nations Educational, Scientific and Cultural Organisation) World Heritage and Biosphere sites; and
  - sites designated as Wetlands of International Importance or RAMSAR sites.
- At a European level:
  - Special Areas of Conservation (SACs); and
  - Special Protection Areas (SPAs);
- At a National level:
  - National Heritage Areas (NHAs) and proposed National Heritage Areas (pNHAs); and
  - other designations such as Salmonid Waters, Freshwater Pearl Mussel (FWPM) Catchments and Nature Reserves.

The Habitats Directive (92/43/EEC) was transposed into Irish law in 1997 by the European Communities (Natural Habitats) Regulations, S.I. 94 of 1997. The Regulations were subsequently revised and consolidated in the European Communities (Birds and Natural Habitats) Regulations 2011, S.I. 477 of 2011. The main purpose of the Habitats Directive is to ensure the appropriate conservation of natural habitats and of wild fauna and flora. Under the directive, Ireland like other Member States was required to establish an ecological network of SACs (sites which host a range of natural habitats and species listed in Annex I and II of the Directive) and SPAs as designated under the Birds Directive (2009/147/EC).

There are approximately 430 SACs in Ireland, covering 13,500km². Roughly 53% are land-based designations, the remainder being marine environments or large lakes (NPWS, 2016) see Figure 4-4. There are a total of 154 SPAs encompassing over 5,700km² of marine and terrestrial habitats (NPWS, 2016) see Figure 4-5. These European sites occur in greatest concentrations in the west of Ireland and in particular along the western, north-western and south-western coasts.

The National Parks and Wildlife Service (NPWS) monitor and assess the status of protected species (Annex I of 92/43/EEC) and habitats in Ireland (Annex I of 92/43/EEC). This takes into account the status of the range, area, structure and functions and future prospects of each species/habitat before defining an overall status for each. A total of 59 different habitats and 61 species are listed. The overall status of Annex I habitats as of 2013 are as follows (NPWS, 2013):

- 8.5% as ‘Favourable’;
- 49% as ‘Inadequate’; and
- 40.5% as ‘Bad’.

Nature (EPA, 2016)

The majority of Ireland’s protected habitats are reported as ‘inadequate’ or ‘bad’ in terms of conservation status. However, levels of many protected species are reported to be stable. The EPA report outlines that considerable effort and resources will be required to improve the status of habitats and species and will be dependent on land-use changes, climate change, the inclusion of biodiversity in economic development decisions, improvement of co-ordination across regulatory bodies and the effective implementation of legislation.
The overall status of Annex II species as of 2013 is as follows:

- 52.5% as ‘Favourable’;
- 19.7% as ‘Inadequate’;
- 9.8% as ‘Bad’; and
- 18% as ‘Unknown’.

There are 155 NHAs across the country, the majority of which are bog-related, and 630 pNHAs which have yet to be statutorily proposed or designated (NPWS, 2016). Other ecological designations across Ireland include:

- six National Parks;
- 45 sites designated as RAMSAR sites (RAMSAR, 2016);
- Two designated UNESCO World Heritage Sites and a further seven heritage sites currently listed as tentative, but yet to be officially designated (UNESCO, 2016); and
- a number of protected sites such as Nature Reserves or Wildlife Refuges which are outlined and identified in the various County Development Plans.

Under the EU Biodiversity Strategy, Ireland must halt biodiversity loss by 2020. On the back of the EU plan Ireland has published its 2nd National Biodiversity Plan, Actions for Biodiversity 2011 – 2016. This set out several Strategic Objectives and over 100 actions to achieve these objectives. In 2015, an Interim Review of the 2011-2016 Plan was published and indicated that the majority of targets were implemented or that implementation was in progress. Specific targets which required further action were highlighted. The 3rd National Biodiversity Plan 2017-2021 was published this year and builds on the actions not completed in the previous plan.
Figure 4-4 Special Areas of Conservation
Figure 4-5 Special Protection Areas
Aquatic Biodiversity

Aquatic biodiversity encompasses freshwater ecosystems including lakes, ponds, reservoirs, rivers, streams, groundwater, wetlands, coastal and marine, and will therefore be significant to the NWRP. Aquatic species are dependent on clean water and suitable flows; macro-invertebrates and some species of fish such as Atlantic salmon are therefore good indicators of the condition of the overall water environment. Modification of watercourses such as channel straightening and bank protection can negatively affect aquatic habitats, and new abstractions or increases to existing abstraction regimes can reduce water flows and in turn reduce a watercourse’s potential to support fish life.

The NPWS has identified 44 different water-dependent habitat types and 22 water-dependent species. Of these the Freshwater Pearl Mussel is considered to be a highly sensitive surface water dependent species in Ireland, and coastal lagoons a highly sensitive water-dependent habitat (EPA, 2016). Of the water-dependent habitats, 11% are deemed to be at Favourable Conservation Status, while 50% of water-dependent species are at Favourable Conservation Status.

Invasive Species

In addition to the objective to halt biodiversity loss, Ireland has a responsibility to prevent the spread of invasive species. An invasive species is a non-native species which has a tendency to spread to a degree determined to be of damage to the environment, human economy or human health of the country into which it has been introduced. Invasive species can dominate and marginalise native species, lowering the value of the overall ecosystem. Invasive species (including aquatic*) in Ireland include the following:

- Asian Clam* (Corbicula fluminea);
- Zebra Mussel* (Dreissena polymorpha);
- Giant hogweed (Heracleum mantegazzianum);
- Nuttall’s pondweed* (Elodea nuttallii);
- Himalayan balsam (Impatiens glandulifera);
- Giant rhubarb (Gunnera tinctoria);
- Japanese knotweed (Fallopia japonica); and
- Rhododendron (Rhododendron ponticum).

4.4.2 Future Trends

Increasing land-use change such as urbanisation, afforestation and its associated management and changing agricultural practices are likely to continue to pose risks to the quality and distribution of aquatic and terrestrial habitats and species, both within and outside protected sites. However, the continued implementation of measures required in achieving the objectives of the WFD and the requirements of the Habitats Directive are likely to benefit protected sites and the wider aquatic environment into the future.

The Conservation Management Plans and conservation objectives which are being developed by the NPWS for many of the European sites, as well as other management plans for declining species (e.g. Species Management Plans) will help protect biodiversity resources going forward. It should be noted that the development of these Conservation Management Plans and site-specific conservation objectives are unlikely to be developed for every site.

Future trends will be influenced by changes/additions to existing designated sites (SACs, SPAs and NHAs). A number of pNHAs may be reviewed and upgraded to NHAs and, similarly, sites listed as tentative on the UNESCO Heritage list may be upgraded to designated heritage sites.

Key Action: Nature and Wild Places (EPA, 2016)

Continue to protect pristine and wild places which are key to biodiversity and provide sustainable tourism opportunities.
There are currently 29 established and 18 potential invasive species threats. Species which are listed as potential threats may become established threats in the near future. The EPA’s report on alien invasive species and the continuing development of the National Biodiversity Data Centre National Invasive Species Database will aid in the documentation of the distribution of invasive species in Ireland. These reports and datasets will go towards the implementation of the recent European legislation on halting the spread of invasive species (Regulation 1143/2014, entered into force on 1 January 2015).

4.4.3 Key Issues relating to the NWRP

The key issues in relation to Biodiversity are:

- Potential to affect protected areas including European Sites (SAC, SPA and RAMSAR), and National Sites (NHAs, pNHAs) and other sites of regional or local importance (National Heritage Sites, Wildlife Reserves).
- Potential for protected sites to pose constraints to planning of water resource options.
- Potential to impact biodiversity in non-designated areas.
- Potential to spread invasive species during construction and operation.

4.4.4 Baseline Information Sources for the SEA

The assessment of biodiversity will use information from the following sources:

- NPWS;
- UNESCO;
- The RAMSAR Convention;
- Department of Agriculture, Food and the Marine;
- Invasive Species Ireland; and
- Biodiversity Data Centre National Invasive Species Database.

4.4.5 Scope of the Assessment

Many habitats and species could be affected by the proposed plan, both directly through construction of options or indirectly by changes to water quality or quantity, therefore biodiversity, flora and fauna are scoped in to the assessment. The SEA will focus on international, national and local designated sites with some focus on specific habitats and species within the AA Natura Impact Statement (NIS).

4.5 Material Assets

4.5.1 Introduction

SEA legislation includes ‘Material Assets’ as a topic to be addressed in SEA, however does not clearly define what this topic includes. For the purpose of this SEA Scoping Report, Material Assets are considered to be the natural and built assets (non-cultural assets) required to enable a settlement to function as a place to live and work, in giving them material value.

Natural assets can include agricultural, peatlands and forestry. Built assets can include infrastructure relating to energy generation/distribution, water supply and waste water management, transport, waste management, buildings and residential and social infrastructure such as housing, healthcare facilities, schools, greenspace and cycle paths.
**National Natural Assets**

The total land cover of Ireland is 6.9 million hectares of which 4.5 million hectares is used for agriculture, almost 68% according to the CORINE land cover report 2012. Of this, 81% is devoted to pasture, hay and grass silage, 11% to rough grazing and 8.2% to crop, fruit and horticulture production (EPA, 2012), see Figure 4-6.

Peatlands and wetlands are the second most widespread land cover type covering almost one-fifth (20.6%) of the country. Bord na Móna own 7.5% of all Irish bogs, while forested areas cover about one-tenth (9.2%), much of which consists of commercial plantation of conifers, owned by Coillte (EPA, 2016).

Forest cover in Ireland is the lowest of all European countries according to Teagasc, with land cover of 11%. Coillte is a commercial, semi-state forestry company which owns over 445,000ha of land in Ireland (approximately 7%). County Wicklow has the highest forest cover in Ireland and County Meath the lowest.

**Land and Soil (EPA, 2016)**

The majority of the Irish landscape comprises agricultural land, wetlands and forests (CORINE). Land use has changed significantly in Ireland since the early 1990s. A reduction in agricultural land and peatland has been influenced by increased forested land and artificial areas.

National policies for forestry, agriculture, peatlands and the built environment will continue to influence land use change and resource management. Land use changes will be heavily influenced by agricultural policies (Food Harvest 2020 and the 2025 Agri-food strategy) and by the National Forestry Programme.

**National Built Assets**

Irish Water operates and maintains approximately 850 WTPs, which deliver clean water through almost 60,000km of pipelines and over 1,000 WwTPs which collect wastewater from approximately 25,000km of pipelines.

Of the 850 WTPs in Ireland, over 180 are Coagulant, Flocculant, Clarifier (CRC) type which is the principal source of solid residual waste. Waste is managed at different WTPs in various ways; these range from on-site management of liquid streams to stockpiling of dewatered solid residuals on site or removed from site for licensed disposal or recycling. The Waste Management Act 1996 governs the handling and disposal of solid waste and sludge and prohibits the discharge of WTP solid residuals into receiving waters, setting out the need for licensed disposal.

In Ireland, hydroelectric power plants make good use of water infrastructure to generate electricity. Hydropower plants using dams on rivers to release the reservoir flow through a turbine, are the most common type of power plant. Two of the biggest in Ireland are, Ballyshannon on River Erne and Poulaphouca on Blessington Lake.

Ireland’s canals once played a significant role as a transport network, however its key use is now recreational and heritage purposes. Key canals are the Grand Canal, Royal Canal and Shannon-Erne Waterway.

There are five ‘Ports of National Significance’ in Ireland: Dublin Port, Shannon Foynes, Port of Cork, Rosslare and Port of Waterford; and four ‘Ports of Regional Significance’: Bantry Bay, Drogheda, Galway and Greenore.

Other significant transport infrastructure includes 100,000km of road network and 2,400km of railway. There are three main airports (Dublin, Cork and Shannon) and a number of regional airports including Donegal, Galway, Kerry, Knock, Sligo and Waterford.
Figure 4-6 CORINE Land cover Ireland 2012

Basemaps Copyright of Ordnance Survey Ireland Licence No. 3/3/04/Irish Water.
4.5.2 Future Trends

The Government’s intention for the future development of Ireland is to maximise the use of valuable land for agriculture, business and society. The Government policy is to bring the national forest cover to 17% by 2030. The Department of Agriculture, Food and the Marine (DAFM) has prepared a series of schemes to meet the overall “Afforestation and Creation of Woodland” measure in the National Forestry Programme 2014-2020. Two strategies, Food Harvest 2020 and Food Wise 2025 have been developed to develop the Irish agri-food sector.

The Department for Housing, Planning and Local Government (DHPLG) have zoned land across Ireland for rural/agricultural use; to protect and improve rural amenity and to provide for the development of agriculture. The growth of the agricultural sector in Ireland will present a challenge to Irish Water in relation to water quality; the EPA reported that agriculture was the suspected cause in 53% of river pollution in the period 2010-2012 in the State of the Environment Report. EPA also reported an increasing trend in public water supplies affected by pesticides.

The Government’s Capital Investment Plan (worth €27 billion between 2016-2021) presents the investment in infrastructure in Ireland throughout the six-year period.

Irish Water’s Business Plan 2015-2021 details a €5.5billion investment in current infrastructure in order to deal with challenges such as compliance with drinking water standards, meeting demand and improving efficiency of the system. Irish Water has set nine deliverables as part of their Business Plan, and the NWRP will play a role in achieving many of them, including:

- delivering capital efficiency savings of €500 million; and
- supporting economic growth in line with economic and special planning policy.

Irish Water has set a range of targets to support the business plan objectives including saving 226 megalitres per day from the 2014 baseline and improving headroom levels in our WTPs across the country.

The DHPLG has zoned land for utilities and strategic infrastructure, residential development and community-educational-institutional. Within the Government’s Capital Investment Plan 2016-2021 there are plans for over €3 billion investment in healthcare including new intensive care units and facilities and just under €3 billion investment in housing including further investment in social housing and various other residential developments. Land zoning and local development plans will have to be taken into consideration for future WRM and potential WTPs and WwTPs.

4.5.3 Key Issues relating to the NWRP

The key issues in relation to Material Assets are:

- Economic growth and development is likely to increase the demand for water within Ireland, particularly within urban populations.
- Strain on existing water services infrastructure to support greater water demand.
- Building materials used, their manufacture and management and/or disposal or waste generated from Irish Water’s activities.
- Effects of construction of specific plan options on current infrastructure such as road/rail/waterway networks.

Waste (EPA, 2016)

Ireland is gradually moving away from reliance on landfills through the increasing focus on waste prevention, reuse, maximising recycling and using waste as a fuel in replacement of fossil fuels. This is being achieved by government policy which concentrates on waste as a resource. The report recognises that economic growth and an increase in construction will place increasing pressures on how waste is handled and managed.
- Temporary or permanent loss of valuable agricultural land during construction and/or operation of specific options.
- Investment into new or expanded WTPs could increase residual/sludge waste.
- Effects of other infrastructural development (not related to the NWRP) on water quality in Ireland will present a risk/challenge for Irish Water.

4.5.4 Baseline Information Sources for the SEA

The assessment in relation to Material Assets will use information from the following sources:

- Irish Water:
- TII;
- Iarnród Éireann;
- CORINE Land Cover;
- Waterways Ireland; and
- Electricity Supply Board (ESB).

4.5.5 Scope of the Assessment

The NWRP and specific options will consider existing water infrastructure in Ireland such as WTPs. The NWRP will outline option types that may be on or close to valuable land or infrastructure. Therefore, material assets are scoped in to the assessment.

4.6 Landscape and Visual Amenity

4.6.1 Introduction

There is currently no published national level landscape mapping for Ireland. In accordance with the Planning and Development Act 2010 all Local Authorities need to identify Landscape Character Areas (LCAs) within their Development Plans to ensure that defining features are protected and managed. There is no national classification system for LCAs as these are geographically specific and have their own distinctive character based on its location and surrounding environment. Some County Councils have yet to formally document LCAs. Many Local Authorities have incorporated landscape designation into their Development Plans in the form of protected views, prospects, landscape conservation areas and scenic routes etc. Similarly to the LCAs, there is no national standardised approach for designating these landscape features/sites.

The European Landscape Convention (ELC) is the first international treaty to focus solely on landscape. The Convention promotes the protection, management and planning of European landscapes. The Irish government ratified the Convention in 2002. The National Landscape Strategy 2015–2025 published by the Department of Culture, Heritage and the Gaeltacht was put in place to drive compliance with ELC by establishing principles that provide the high level policy framework to achieve the Convention objectives.

The landscape of Ireland is varied with a mix of lowland and upland, rivers, lakes and shores. The majority of uplands in Ireland are close to the coast. There are 45 peaks which exceed 750 metres and which are within 56km from the coast. However most of the landmass of Ireland, particularly the centre, is low-lying land; less than 5% lies above 500 metres and over 80% is below 200 metres.

The EPA CORINE land cover data series specifies that the dominant land cover type in Ireland is agricultural land, which accounts for over 68% of the national landmass, followed by peatlands and wetlands, covering 20.6% and forestry and semi-natural areas covering almost 11.5%. Forests in Ireland are relatively young, with almost 40% of total forest areas planted since 1990.
4.6.2 Future Trends

The existing landscape is not expected to change significantly in the immediate future. The National Landscape Strategy will be used to aid compliance with the ELC and as part of this, a National Landscape Character Assessment is currently being developed. It is a high level policy framework aimed at achieving a balance between the protection, management and planning of the landscape by way of supporting actions (DCHG, 2015). The Planning and Development (Amendment) Act 2010 defines the term ‘landscape’, and to support this, complementary legislation and codes will be examined to see whether gaps need to be addressed therefore there maybe legislation specific to landscape protection in the near future.

The main changes to landscape/land cover in Ireland between the 2006 and 2012 CORINE programmes was the afforestation. There was an increase of 0.13% in the national area covered by forestry and a resultant decrease in agricultural (0.12%) and peatlands (0.04%) areas. There was also a small increase in urban fabrics/industrial or commercial units and road and rail networks and construction sites. Given the projected trend for urbanisation and the government policy to bring the national forest cover to 17% by 2030 as detailed in Section 4.5.2, it is anticipated that these land cover trends will continue.

4.6.3 Key Issues relating to the NWRP

The key issues in relation to Landscape and Visual Amenity are:

- Potential for permanent infrastructure to impact landscape and visual amenity temporarily during construction or permanently throughout operation.
- Potential for water resource options to be constrained by the need to protect the landscape character and local visual amenity.

4.6.4 Baseline Information Sources for the SEA

The assessment in relation to landscape will use information from the following sources:

- The National Landscape Strategy for Ireland;
- CORINE Land Cover; and
- County Development Plans (as appropriate).

4.6.5 Scope of the Assessment

Landscape and visual amenity has the potential to be impacted by the NWRP, therefore it is scoped in to the assessment.

4.7 Air Quality and Noise

4.7.1 Introduction

Air Quality

Ireland’s air quality is generally good in comparison to other EU member states, largely down to the prevailing Atlantic air-flow and the absence of large cities and heavy industries. Ireland’s air quality standards are dictated by the EU Directive on Ambient Air Quality and Cleaner Air for Europe (CAFE Directive 2000/69/EC).

Key Action: Implementation of Legislation* (EPA, 2016)

Need to improve how plans/policies are tracked and the overall enforcement of environmental legislation.

*relevant to all aspects
2008/50/EC). The EPA is responsible for monitoring the nation’s levels of air pollutants within four zones as follows:

- Zone A: Dublin;
- Zone B: Cork;
- Zone C: Other cities and large towns in Ireland; and
- Zone D: Rural Ireland.

According to the most recent ‘Air Quality in Ireland’ reports, Ireland has not exceeded EU limits on air quality in recent years, however there have been exceedances of the more stringent air quality indicators devised by the WHO. For example, in 2015 PM10 (particulate less than or equal to 10 micron) concentrations were below the EU limit at all stations but WHO air quality guideline values were exceeded on some occasions.

In the State of the Environment Report, the EPA and WHO have estimated that more than 400,000 premature deaths are attributable to poor air quality in Europe annually, including 1,200 deaths in Ireland, and therefore the EPA recognises the importance of these more stringent limits.

It is important to note that the water industry is not a major contributor to air quality issues. The biggest contributors to air pollution in Ireland are vehicle emissions, electricity generation, industry and agriculture (EPA, 2016).

### Air Quality (EPA, 2016)

Current air quality in Ireland is of an acceptable standard and remains within the European Union (EU) legislative and target values. However, ozone, particulate matter and polycyclic aromatic hydrocarbons (PAHs) are emerging as pollutants of concern in the short term, when compared with World Health Organisation (WHO) guidelines and European Economic Area (EEA) reference level values. Levels of Nitrogen Oxide (NO) are also expected to increase. Under WHO and EU estimates, approximately 1,200 deaths in Ireland are attributable to air pollution.

### Noise

Noise is defined as unwanted sound and can be harmful to human and ecosystem health (WHO, 2003). The Noise Directive (2002/49/EC) relating to the assessment and management of environmental noise, was transposed into Irish national legislation via the Environmental Noise Regulations (S. I. No. 140 of 2006). This Directive called for the development of strategic noise maps and action plans for major roads, railways, airports and cities. To date these have been produced for the road network only.

The relevant Action Planning Authorities are required to prepare noise action plans designed as a means of managing land use planning, traffic management and control of noise sources. This has yet to be completed; the EPA have now published guidance for Local Authorities on the content of the plans.

### 4.7.2 Future Trends

Although air quality in Ireland is good, there is potential for emerging pollutants to rise above limits/targets in the future. Key contributors to emissions in Ireland are the transport and agriculture sectors. Agriculture emissions are projected to grow on an annual basis until 2020 which reflects the impact of Food Harvest 2020 and removal of the milk quota. In total, agriculture emissions are projected to increase by 12% by 2020 on current levels. Transport emissions are also projected to show strong growth over the period to 2020 with a 12-22% increase on current levels depending on the level of policy implementation (EPA, 2013).

Future noise trends are difficult to predict. The Environmental Noise Regulations 2006 may be revised in future to enforce a stricter level of noise management, and further strategic noise maps and plans are to be developed.

### 4.7.3 Key Issues relating to the NWRP

The key issues in relation to Air Quality and Noise are:
4.7.4 Baseline Information Sources for the SEA

The assessment in relation to Air Quality and Noise will use information from the following sources:

- EPA; and
- WHO.

4.7.5 Scope of the Assessment

Water Infrastructure is not a significant contributor to air pollution, therefore is not considered to be relevant to water resource planning at the strategic level nor will it influence the choice of option. Therefore, air quality has been scoped out of the assessment.

Due to the potential for short-term noise pollution during construction and longer-term during operation of specific projects, noise has been scoped in to the assessment.

4.8 Climate Change

4.8.1 Introduction

The National Policy Position on Climate Action and Low Carbon Development and the Climate Action and Low Carbon Development Act 2015 provide the policy framework for climate action at national level in Ireland. At EU and UN level there are a number of strategies and policies that set out the requirements for national mitigation and adaptation. In summary these policies and strategies are looking to minimise global temperature rise to 1.5 degrees and achieve greenhouse gas emission reductions by at least 20% by 2020 and 40% of 1990 levels by 2030.

Ireland has adopted its first National Climate Change Adaptation Framework in 2012 which aims to ensure that adaptation actions are taken across all sectors from a national to local level to reduce vulnerability to climate change. The DHPLG is responsible for leading sectoral Adaptation Plans for Water. In 2015, Ireland adopted its Climate Action and Low Carbon Development Act which provides for an integrated approach to achieving transition to a low carbon economy, by integrating the framework for two statutory plans; the National Mitigation Plan and the National Adaptation Framework. In 2017, the Department of Communications, Climate Action and the Environment published Ireland’s first National Mitigation Plan. It sets out a series of mitigation measures and actions to address the challenge to 2020 and 2030 targets. Ireland’s key focus to achieve its emissions target is to reduce emissions from its largest contributing sectors; agriculture, transport and energy. Irish Water as a public body has responsibility under this mitigation plan.

Climate change has a direct relevance to WRM as changes including increased temperatures, droughts and changes in rainfall could affect the amount of water available, making it increasingly complex to manage demand. Rainfall is the main source of additional water into the system and increasing temperatures will affect the amount of water leaving the system either directly through evaporation or indirectly through uptake from plants and animals. Lower flows and higher water temperatures may also impact on the water quality. These factors can have significant implications for WRM and the NWRP.

4.8.2 Future Trends

The Draft RBMP 2018 – 2021 outlines the main climate change impacts expected for Ireland as follows:

- Sea level rise.

Key Action: Climate Change (EPA, 2016)

Need to accelerate the implementation of mitigation measures/adaptation to reduce GHG emissions/increase resilience to adverse climate impacts.

Climate Change (EPA, 2016)

Ireland is considered particularly vulnerable to extreme weather events and sea-level rises caused by climate change.
- More intense storms and rainfall events.
- Increased likelihood and magnitude of river and coastal flooding.
- Water shortages in summer in the east of the country.
- Adverse impacts on water quality.
- Changes in distribution of plant and animal species on land and in the ocean.

In early 2017 the EPA reported that Ireland is unlikely to meet 2020 EU greenhouse gas targets for all sectors. Current projections indicate that Ireland will be 4-6% below 2005 levels by 2020 against the target of 20% (EPA, 2017).

4.8.3 Key Issues relating to the NWRP

The key issues in relation to climate are:

- Increased pressure on the environment and water resources as a result of increased temperatures and reduction in the availability of water as a result of decrease in rainfall; and incidence of extreme events.
- Effect on land valuable for climate change adaptation and carbon carbon offsetting; such as peatlands, grasslands and/or forests.
- Carbon emission from energy use and requirement of energy efficiency.
- Water quality impacts as a result of increased flooding or droughts.

4.8.4 Baseline Information Sources for the SEA

The assessment in relation to climate change will use information from the following sources:

- The Department of Communications, Climate Action and Environment;
- EPA;
- CFRAM Studies (OPW, 2016); and

4.8.5 Scope of the Assessment

Climate change and extreme weather events could have a significant impact on water demand and availability in Ireland. The effect of climate change on the resilience of water supply and effects on demand is a core part of the NWRP. The potential for water resource schemes to add to pressure on ecosystems likely to be affected by climate change needs to be considered. This includes habitats sensitive to climate change or important for climate change adaptation such as rivers and wetlands, peatlands, grasslands and forests.

The carbon footprint and carbon emissions associated with energy consumption for potential water resource and demand management schemes will be a consideration for the selection of future schemes to ensure the NWRP contributes to overall objectives on carbon emissions.

As a result, environmental resilience to climate change and carbon emissions are scoped in to the assessment.

4.9 Cultural Heritage (Architectural and Archaeological)

4.9.1 Introduction

Archaeological sites are legally protected by the provisions of:

- The National Monuments Acts,
- The National Cultural Institutions Act 1997 and
- The Planning and Development Acts.
One of the primary sources of information for known archaeological features is the Record of Monuments and Places (RMPs) which was established under the National Monuments Acts 1930 to 2004. The RMP is an inventory of sites and areas of archaeological significance. It holds records of known upstanding archaeological monuments, the original location of destroyed monuments, and the location of possible sites. There are some 80,000 sites recorded in the RMPs (DAHRRG, 2016). Of these RMPs approximately 1,000 are under state care i.e. are in the ownership or guardianship of the Minister for Arts, Heritage, Regional, Rural and the Gaeltacht Affairs.

Architectural Conservation Areas (ACAs) are designated under Section 81 of the Planning & Development Act 2000-2010 (as amended) for the protection of areas for their special characteristics and distinctive features. ACAs in Ireland are detailed in the various County and Local Area Development Plans (some of which are pending designation).

A primary source of information for known architectural heritage is the Record of Protected Structures (RPSs). Local authorities are obliged to compile and maintain the RPSs under Section 51 of the Planning and Development Act 2000. These RPSs are listed in the County Development Plans, but are not available in digital map format for some county councils. It is acknowledged that the register of protected structures documented in CDPs may not represent all Ministerial recommended sites/structures which are included in the National Inventory of Architectural Heritage (NIAH). The NIAH was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. The purpose of the NIAH is to identify, record, and evaluate the post-1700 heritage of Ireland; there are over 50,000 listings on the NIAH in Ireland (DAHRRG, 2016).

There are two registered UNESCO World Heritage Sites in Ireland: Brú na Bóinne - Archaeological Ensemble of the Bend of the Boyne in Co. Meath and Skellig Michael off the coast of Co. Kerry. Since 2010 a number of sites have been on the UNESCO tentative list.

There are also potentially unknown, undesignated archaeological and architectural remains including underwater archaeology throughout Ireland.

### 4.9.2 Future Trends

It is unlikely that the cultural heritage environment will change significantly in the near future due to the continued protection of cultural, archaeological and architectural heritage in National legislation. However, there could be minor revisions to the cultural heritage datasets within the plan period, and there are also a number of sites on the UNESCO tentative list that could be designated within the plan period.

### 4.9.3 Key Issues relating to the NWRP

The key issues in relation to Cultural Heritage are:

- The potential for the construction of options to permanently or temporarily damage archaeological and architectural heritage monuments/sites.
- The potential for permanent structures to impact the setting of heritage sites/monuments.
- Water resource options could be constrained by the need to protect the character of areas.
- The potential to uncover (and/or damage) unknown, undesignated remains, including underwater archaeology.

### 4.9.4 Baseline Information Sources for the SEA

The assessment in relation to Cultural Heritage will use information from the following sources:

- The Department of Culture, Heritage and the Gaeltacht;
- National Monuments Service;
- Built Heritage and Architectural Policy Section (the NIAH);
- County Development Plans (as appropriate);
- Heritage Council; and
- UNESCO.
4.9.5 **Scope of the Assessment**

Cultural Heritage sites and their settings, including architectural and archaeological sites have the potential to be impacted by the NWRP and specific options are therefore scoped in to the assessment.

4.10 **Geology and Soils**

4.10.1 **Introduction**

**Geology**

As part of the Irish Geological Heritage (IGH) Programme, a partnership between GSI and the NPWS, the GSI have identified important geological and geomorphological sites which could be conserved as NHAs. Until designation is confirmed, these sites are classified as Irish Geological Heritage Sites (IGHS). There are over 900 IGHS identified around Ireland.

The geology of Ireland is varied and influenced by the topography, landscape, soils, and water environment, and in particular is intimately linked to groundwater flow and resource. The main rock type in Ireland is Carboniferous limestone, which covers approximately 50% of Ireland in the low-lying centre of the country. The nature of limestone strongly influences karstification. Karst springs are ready sources of drinking water in the absence of surface water sources; most of the largest springs in Ireland emerge from karst.

The mountainous areas on the coast of Ireland surrounding this are varied. The west coast of Ireland (Donegal, Mayo and Galway) has the most varied bedrock and is made up of Precambrian Dalradian rocks and Quartzites, as well as deposits of Ordovician, Silurian and Granite. The mountains to the east of Ireland (Wicklow) mainly comprise Ordovician and Granite, and the bedrock in the south of Ireland primarily comprises Old Red Sandstone.

**Soils**

There is no legislation solely directed to soil protection in Ireland. In 2006, the European Commission (EC) developed a Soil Thematic Strategy that aims to protect soils and ensure the sustainable use of soils across Europe.

Soil quality in Ireland is generally of good quality. Brown fertile earth which is quite shallow makes up most of the soil formation and is mostly found in the midlands and eastern counties. 68% of Ireland’s landmass is used for agriculture due to this brown earth being rich and fertile. The other large soil type is gley, which is peaty soil, mainly found in the low-lying centre of Ireland. This soil has a large clay composition and is poorly drained. Brown podzolics, and grey-brown podzolics also make up a large part of the soil formation of Ireland, and are mainly found in the central and southern counties of Ireland. Podzolic soils are typical of the geology and landscape of those areas; typically found on sandy deposits on forested soils. (EPA, 2012)

4.10.2 **Future Baseline**

Changes in geology are generally considered to happen over very long timescales, therefore baseline forecasting is not considered to be critical with regards to geology and soils over the lifetime of the NWRP. However, as discussed above, the NPWS are evaluating proposed IGHS sites and in the near future some of these will be designated as NHAs and gain statutory protection.

4.10.3 **Key Issues relating to the NWRP**

The key issues in relation to Geology and Soils are:

- Potential for water resource options to be constrained by future NHA/IGH sites.
- Potential for impacts on geological resources/soil resources.
- Potential to impact vulnerable soils or unearth contaminated material.
4.10.4 Baseline information Sources for the SEA

The assessment in relation to Geology and Soils will use information from the following sources:

- GSI;
- NPWS; and
- EPA.

4.10.5 Scope of the Assessment

Given the importance of karst limestone to sources of water, geology has been scoped in to the assessment. Soil has also been scoped in as water resource options may have the potential to affect soil resources.

4.11 Transboundary Effects

The SEA will have regard where relevant and or appropriate to potential transboundary effects in Northern Ireland.

4.11.1 Baseline Information Sources for the SEA

The assessment in relation to transboundary effect will utilise information from the following sources:

- Northern Ireland Environment Agency (NIEA);
- Joint Nature Conservation Committee (JNCC); and
- Geological Survey of Northern Ireland (GSNI).

4.11.2 Key Issues Relating to the NWRP

The key issues are similar to those outlined under each theme in the previous sections but primarily related to the water environment in Northern Ireland.

4.11.3 Scope of Assessment

Transboundary effects are scoped in to the SEA, as there is potential for effects to Northern Ireland.

4.12 Summary of the Scope of the SEA

The scope of the SEA has been determined by the key issues and trends established in the baseline assessment, and by the PPP review. The scope of the assessment is outlined in Table 4-4.

Table 4-4 Summary of the key issues and scope for the SEA

<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Key Issues</th>
<th>Scope</th>
</tr>
</thead>
</table>
| Population, Economy, Tourism and Recreation, and Human Health | - Population and economic growth will increase the demand for water within Ireland.  
- Age structure, household sizes, growth in education and employment in particular business sectors may also influence water requirements within Ireland.  
- Health risks associated with the inability to provide clean/safe drinking water.  
- Patterns for settlement and economic growth will influence the demand for water and in turn the location of water resource options.  
- The construction of water resource options may cause temporary disruption to the local community in the form of | Scoped in: Population, Economy, Tourism and Recreation, and Human Health |
### Strategic Environmental Assessment Scoping Report

<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Key Issues</th>
<th>Scope</th>
</tr>
</thead>
</table>
| Noise, Dust, Disruption    | - Public perception of water resource options and concerns regarding loss of public amenity or property value as a result of the development of options.  
- Growth in the tourism industry and the continued number of international tourists coming into the country will influence the demand for water within Ireland and increasing security of supply of water will aid development of the tourism industry.  
- The location of important tourist attractions and recreational areas will influence the location of water resource options.  
- Potential for loss/gain of public amenity as a result of development. | **Scoped in:** Surface Water Quality, Groundwater Quality, Abstraction/Discharge issues, Flood Risk                                                                                                                                                                       |
| Water Environment          | • Potential to affect or impede the WFD objectives from the construction and operation of water resource options.  
• Potential for climate change and the effects of climate change such as increased flooding to impede Irish Water’s ability to meet water supply.                                      | **Scoped in:** Surface Water Quality, Groundwater Quality, Abstraction/Discharge issues, Flood Risk                                                                                                                                                                       |
| Biodiversity, Flora and Fauna | • Potential to affect protected areas including European Sites (SAC, SPA and RAMSAR), and National Sites (NHAs and pNHAs) and other sites of regional or local importance (National Heritage Sites, Wildlife Reserves).  
• Potential for protected sites to pose constraints to planning of water resource options.  
• Potential to impact biodiversity in non-designated areas.  
• Potential to spread invasive species during construction and operation. | **Scoped in:** Habitats and species that are water-dependent, invasive species, protected sites.                                                                                                                                                                         |
| Material Assets            | • Economic growth and development is likely to increase the demand for water within Ireland, particularly within urban populations.  
• Strain on existing water services infrastructure to support greater water demand.  
• Building materials used, their manufacture and management and/or disposal or waste generated from Irish Water’s activities.  
• Effects of construction of specific plan options on current infrastructure such as road/rail/waterway networks.  
• Temporary or permanent loss of valuable agricultural land during construction and/or operation of specific options.  
• Effects of other infrastructural development (not related to the NWRP) on water quality in Ireland will present a risk/challenge for Irish Water. | **Scoped in:** Material Assets such as commercial forests and protected woodland areas, forest parks, valuable agricultural land, existing infrastructure important for the day-to-day life of an area. |
| Landscape and Visual Amenity | • Potential for permanent infrastructure to impact landscape and visual amenity temporarily during construction or permanently throughout operation.  
• Potential for water resource options to be constrained by the need to protect the landscape character and local visual amenity. | **Scoped in:** Landscape character and quality                                                                                                                                                                                                                       |
<p>| Air Quality and Noise      | • Generation of noise during construction and operation.                                                                                                                                                  | <strong>Scoped in:</strong> Noise disturbance                                                                                                                                                                                                                                    |</p>
<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Key Issues</th>
<th>Scope</th>
</tr>
</thead>
</table>
| Climate                                       | • Increased pressure on the environment and water resources as a result of increased temperatures and reduction in the availability of water as a result of decrease in rainfall; and incidence of extreme events.  
• Effect on land valuable for climate change adaptation and carbon offsetting; such as peatlands, grasslands and/or forests.  
• Carbon emission from energy use and requirement of energy efficiency.  
• Water quality impacts as a result of increased flooding or droughts. | Scoped in: Climate change and its effects on the Water Environment and catchments and carbon cost of options. |
| Cultural Heritage (Archaeological and Architectural) | • Potential for the construction of options to permanently or temporarily damage archaeological and architectural heritage monuments/sites.  
• Potential for permanent structures to impact the setting of heritage sites/monuments.  
• Water resource options could be constrained by the need to protect the character of areas.  
• Potential to uncover (and/or damage) unknown, undesignated remains, including underwater archaeology. | Scoped in: Cultural Heritage (including Archaeology and Architecture). |
| Geology and Soils                             | • Potential for water resource options to be constrained by future NHA/IGH sites.  
• Potential for impacts on geological resources/soil resources.  
• Potential to impact vulnerable soils or unearth contaminated material. | Scoped in: Geology, Soils, contaminated land, mineral resources and IGH sites, and geological pNHAs. |
| Transboundary Effects                         | • Some of the above effects could be experienced in Northern Ireland.       | Scoped in                                                             |

**SEA Scoping Questions - Section 4**

4. Chapter 4 sets out the current baseline environment conditions and future trends. The environmental issues are summarised in Table 4.4. Do you have any comments on these?
5 Proposed Scope of Assessment and SEA Objectives

5.1 Introduction

The aim of this SEA Scoping Report is to determine the scope and objectives of the SEA. The existing baseline conditions, future baseline trends and legal requirements within relevant plans, policies and programmes have shaped the development of the scope and objectives for this assessment.

5.2 Summary of Key Issues

The environmental baseline suggests that there will be a number of key issues, trends and challenges for each of the above mentioned environmental areas. Those issues deemed to have potential to interact with the NWRP and impact on the ability to manage any other key issues have been scoped in to the SEA, as detailed in Table 4-4.

5.3 Proposed SEA Objectives

During this stage of the SEA process a set of Strategic Environmental Objectives (SEO) and assessment criteria has been developed. The SEOs will guide the development of targets which the environmental effects of the NWRP will be monitored against. The draft SEOs are illustrated in Table 5-1 below. The SEOs have been developed from: the initial baseline review; key issues identified; the Plans, Policies and Programmes of relevance; and also reflect the SEOs within other Irish Water plans such as the WSSP and the Lead Mitigation Plan.

Table 5-1 Draft SEA Objectives

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>Code</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, Economy, Tourism and Recreation, and Human Health</td>
<td>PEH 1</td>
<td>Protect and reduce risk to human health in undertaking water services.</td>
</tr>
<tr>
<td></td>
<td>PEH 2</td>
<td>Prevent damage to recreation and amenity facilities resulting from Irish Water’s activities.</td>
</tr>
<tr>
<td>Water Environment</td>
<td>WE 1</td>
<td>Prevent deterioration of the status of water bodies with regard to quality and quantity due to Irish Water’s activities and contribute towards the improvement of water body status for rivers, lakes, transitional and coastal waters and groundwater to at least good status, as appropriate to the WFD.</td>
</tr>
<tr>
<td>Biodiversity, Flora and Fauna</td>
<td>BFF 1</td>
<td>Prevent damage to terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species resulting from Irish Water’s activities.</td>
</tr>
<tr>
<td>Material Assets</td>
<td>MA 1</td>
<td>Provide new, and upgrade existing, wastewater management infrastructure to protect human health and the ecological status of water bodies.</td>
</tr>
<tr>
<td></td>
<td>MA2</td>
<td>Protect water as an economic resource.</td>
</tr>
<tr>
<td>Landscape and Visual Amenity</td>
<td>LVA 1</td>
<td>Avoid damage to designated landscapes resulting from Irish Water’s activities.</td>
</tr>
<tr>
<td>Climate Change</td>
<td>CC 1</td>
<td>Minimise contributions to climate change and emissions to air (including greenhouse gas emissions) as a result of Irish Water’s activities and ensure the resilience of water supply and treatment infrastructure to the effects of climate change.</td>
</tr>
</tbody>
</table>
5.4 Proposed Assessment Approach

5.4.1 Assessment of Option Types

The option types (see Section 2.1.1) for WRM that will be outlined within the Draft NWRP will be assessed against the SEOs in line with the criteria outlined in Table 5-2. This assessment will take account of the national, regional and/or local nature of the option type.

<table>
<thead>
<tr>
<th>SEA Theme</th>
<th>Code</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Heritage</td>
<td>CH 1</td>
<td>Avoid damage to cultural heritage resources resulting from Irish Water’s activities.</td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>GS 1</td>
<td>Avoid conflicts with, and contribute towards, the appropriate management of soil quality and quantity.</td>
</tr>
</tbody>
</table>

Table 5-2 SEA Assessment Criteria

<table>
<thead>
<tr>
<th>Description of Likely Significant Effect</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Likely to have a positive effect</td>
<td>+</td>
</tr>
<tr>
<td>Likely to have a negative effect</td>
<td>-</td>
</tr>
<tr>
<td>Effects are uncertain/there is insufficient information on which to determine effect</td>
<td>?</td>
</tr>
<tr>
<td>Likely to have a neutral effect</td>
<td>*</td>
</tr>
<tr>
<td>Likely to have a mixed positive &amp; negative effect</td>
<td>+/-</td>
</tr>
<tr>
<td>Likely to have a mixed negative &amp; positive effect</td>
<td>-/+</td>
</tr>
</tbody>
</table>

5.4.2 Development of the Options Methodology

The first cycle of the NWRP will involve the production of an option assessment methodology to be applied to WRM going forward. The SEA process will be fully integrated into the development of this methodology and will advise on the environmental constraints to be considered and steps to be taken to avoid potential significant effects.

5.5 Cumulative Assessment

The SEA will consider cumulative effects from the NWRP in combination with other plans. Cumulative effects include additive and synergistic effects. These will be reported as part of the SEA Environmental Report.

5.6 NWRP Alternatives

The SEA Directive requires the SEA process to identify and describe ‘reasonable alternative’ means of achieving the objectives of the NWRP. The reasons for selecting (a) the alternatives and (b) the preferred alternative must be documented, together with a description of how this assessment of alternatives was undertaken. Alternatives will be assessed against the SEOs and clear justification for the selection of the preferred alternative will be provided.

The assessment of alternatives will take place in the subsequent stages of the SEA process, will be documented within the SEA Environmental Report and where relevant, in the SEA Statement (Stages 3 and 4 of the SEA process). At a minimum the “No plan” option (essentially a do-nothing scenario from a plan-making/SEA perspective) will be assessed. The SEA will also consider other potential scenarios during the NWRP development process for example Low Carbon option, Best Environmental option, Least Whole Life Cost option and any others that are deemed appropriate.
The SEA will assess the WRM option types outlined within the Draft NWRP and will also feed into the development of the options assessment methodology that will be used for future WRM.

5.7 Inter-relationship

In accordance with the SEA Directive, it is important to recognise the interrelationships between these environmental topics, as changes to one environmental aspect can directly and indirectly influence others. Table 5-3 below illustrates the potential interrelationships between the environmental topics discussed in Section 4.2 to 4.13 which will be explored further during the next stages of the SEA.
### Table 5-3
Interrelationships between SEA topics

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biodiversity (Flora &amp; Fauna)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material Assets</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape &amp; Visual Amenity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Quality &amp; Noise</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climate Change</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archaeology &amp; Cultural Heritage</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geology &amp; Soils</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.8 Appropriate Assessment

The AA process will be undertaken in accordance with the following guidance documents:

- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (Department of Environment, Heritage and Local Government (DEHLG), 2010);
- Assessment of Plans and Projects Significantly Affecting European sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (The EC, 2002); and

### SEA Scoping Questions - Section 5

5. Chapter 5 sets out the environmental objectives that will be used to assess the NWRP and its potential effects on the environment. Table 5.1 summarises these objectives. Have you any comments on these?
6 Next Steps

6.1 NWRP Development and SEA Assessment

The next stage of the NWRP development involves progressing the NWRP objectives as outlined in Section 2.1, and in summary these are as follows:

- Development of the inventory of WRZs.
- Production of robust methodologies to assess these WRZs and the sources within them.
- Development of the WTP Residuals Plan.
- Development of the Drought Plan.

This SEA Scoping Report will not be updated but any feedback received during this scoping stage will be incorporated as relevant during stage 3 of the SEA. The SEA will undertake an assessment of the option types and will feed into the development of the future options assessment methodology. The outcomes of the assessment stage and recommended approach will be presented in the Draft NWRP and the SEA Environmental Report. The Draft NWRP, the SEA Environmental Report and the Natura Impact Statement are due to be published in mid-2018 for consultation.

The final NWRP will be published in late 2018. After this, Irish Water will undertake a review and update of the NWRP at least once every five years. This review will assess the actions and objectives of the first NWRP and make recommendations for new or updated approaches. The future plans and associated environmental reports will again invite feedback during its development prior to adoption.

6.2 Further Information

This SEA Scoping Report has been prepared on behalf of Irish Water and is available online at the following website:

https://www.water.ie/nwrp

Further information requests and written submissions or observations can be sent to Irish Water:


By email: nwrp@water.ie

All written submissions or observations relating to this document should be submitted by 22nd December 2017. Irish Water would value your response to the questions posed throughout this document.

<table>
<thead>
<tr>
<th>SEA Scoping Questions - Section 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. How would you like Irish Water to communicate with you as the plan progresses?</td>
</tr>
</tbody>
</table>
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstraction</td>
<td>The process of taking water from any source, including rivers and aquifers.</td>
</tr>
<tr>
<td>Appropriate Assessment</td>
<td>An assessment required under the Habitats Directive when a plan or project has the potential to affect a European site.</td>
</tr>
<tr>
<td>Aquifer</td>
<td>A water-bearing rock that groundwater can be extracted from.</td>
</tr>
<tr>
<td>Baseline Condition</td>
<td>The state of the environment in the absence of the NWRP.</td>
</tr>
<tr>
<td>Catchment</td>
<td>The total area of land that drains into a watercourse.</td>
</tr>
<tr>
<td>Cumulative effect</td>
<td>The combined effects from several plans, programmes or policies.</td>
</tr>
<tr>
<td>Deficit</td>
<td>The amount of water shortage between supply and demand.</td>
</tr>
<tr>
<td>Desalination</td>
<td>The process of removing salt from seawater.</td>
</tr>
<tr>
<td>Effluent</td>
<td>Liquid waste or sewage discharged into a river or the sea.</td>
</tr>
<tr>
<td>Environmental Report</td>
<td>The SEA report that documents the effects of measures outlined in a plan.</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product is a monetary measure of the market value of all goods and services produced in a period (in this case annually).</td>
</tr>
<tr>
<td>Invasive species</td>
<td>Non-native species that out-compete native species to the detriment of an ecosystem.</td>
</tr>
<tr>
<td>Mitigation</td>
<td>The implementation of measures designed to reduce the predicted effects of a plan or project on the environment.</td>
</tr>
<tr>
<td>Natura Impact Statement</td>
<td>The statement prepared following Appropriate Assessment of European sites as required under the Habitats Directive, which presents information on the assessment and the process of collating data on a project and its potential significant impacts on European sites.</td>
</tr>
<tr>
<td>RAMSAR Site</td>
<td>An international designation for an important wetland site under the Ramsar Convention.</td>
</tr>
<tr>
<td>River Basin District</td>
<td>The area of land and sea, made up of one or more neighbouring river basins together with their associated groundwater and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.</td>
</tr>
<tr>
<td>River Basin Management</td>
<td>A key element to the WFD, taking an integrated approach to the protection, improvement and sustainable use of the water environment; including all surface water and groundwater bodies.</td>
</tr>
<tr>
<td>Special Area of Conservation</td>
<td>An international designation for habitats and/or species under the EC Habitats Directive.</td>
</tr>
<tr>
<td>Special Protection Area</td>
<td>A site of international importance for birds, designated as required by the EC Birds Directive.</td>
</tr>
<tr>
<td>Strategic Environmental Objectives</td>
<td>Methodological measures against which the effects of the NWRP can be tested.</td>
</tr>
<tr>
<td>Supply Demand Balance</td>
<td>When the amount of water available for supply is equal to the demand from customers.</td>
</tr>
<tr>
<td>Water Resource Management</td>
<td>The management of water sources and demands to minimise any deficit between the two.</td>
</tr>
<tr>
<td>Water Resource</td>
<td>A plan designed to identify water deficits and outline measures that can reduce</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Management Plan</td>
<td>the deficit.</td>
</tr>
<tr>
<td>Water Resource Zone</td>
<td>The largest possible zone in which all resources, including external transfers, can be shared and all customers experience a similar risk of supply failure from a resource shortfall.</td>
</tr>
<tr>
<td>Water Supply Zone</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Acronyms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Appropriate Assessment</td>
<td>NWRP</td>
<td>National Water Resource Plan</td>
</tr>
<tr>
<td>ACA</td>
<td>Architectural Conservation Areas</td>
<td>OPW</td>
<td>Office of Public Works</td>
</tr>
<tr>
<td>AFA</td>
<td>Areas for Further Assessment</td>
<td>pNHA</td>
<td>Proposed National Heritage Area</td>
</tr>
<tr>
<td>CDPs</td>
<td>County Development Plans</td>
<td>PPP</td>
<td>Plans, Policies and Programmes</td>
</tr>
<tr>
<td>CFRAM</td>
<td>Catchment Flood Risk Assessment and Management</td>
<td>RBD</td>
<td>River Basin District</td>
</tr>
<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
<td>RBMP</td>
<td>River Basin Management Plan</td>
</tr>
<tr>
<td>DAFM</td>
<td>Department for Agriculture, Food and the Marine</td>
<td>RMP</td>
<td>Record of Monuments and Places</td>
</tr>
<tr>
<td>DEHP</td>
<td>di(2-ethylhexyl) phthalate</td>
<td>RPS</td>
<td>Record of Protected Structures</td>
</tr>
<tr>
<td>DHPLG</td>
<td>Department for Housing, Planning, and Local Government</td>
<td>SAC</td>
<td>Special Area of Conservation</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
<td>SDB</td>
<td>Supply Demand Balance</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
<td>SEA</td>
<td>Strategic Environmental Assessment</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
<td>SEO</td>
<td>Strategic Environmental Objective</td>
</tr>
<tr>
<td>ELC</td>
<td>European Landscape Convention</td>
<td>SPA</td>
<td>Special Protection Area</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
<td>THMs</td>
<td>Trihalomethanes</td>
</tr>
<tr>
<td>GCIP</td>
<td>Government’s Capital Investment Plan 2016-2021</td>
<td>WTP</td>
<td>Water Treatment Plant</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td>WwTP</td>
<td>Wastewater Treatment Plant</td>
</tr>
<tr>
<td>GSI</td>
<td>Geological Survey Ireland</td>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>IGH</td>
<td>Irish Geological Heritage</td>
<td>WFD</td>
<td>Water Framework Directive</td>
</tr>
<tr>
<td>LCA</td>
<td>Landscape Character Area</td>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>NHA</td>
<td>National Heritage Area</td>
<td>WSSP</td>
<td>Water Supply Service Plan</td>
</tr>
<tr>
<td>NIAH</td>
<td>National Inventory of Architectural Heritage</td>
<td>WRM</td>
<td>Water Resource Management</td>
</tr>
<tr>
<td>NIS</td>
<td>Natural Impact Statement</td>
<td>WRZ</td>
<td>Water Resource Zone</td>
</tr>
<tr>
<td>NPWS</td>
<td>National Parks and Wildlife Service</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reference List


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European Commission, SEA Directive (2001/42/EC) on ‘assessment of the effects of certain plans and programmes on the environment’

European Commission, WFD Directive (2000/60/EC) on ‘establishing a framework for community action in the field of water policy’

European Commission, Directive 2008/50/EC ‘on ambient air quality and cleaner air for Europe’

European Commission, Directive 2002/49/EC, ‘relating to the assessment and management of environmental noise’


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Appendix A.  SEA Screening Statement
Appendix B. Legislation, Policy Programme and Plan Review
### Plan, Programme, Policy, Legislation

<table>
<thead>
<tr>
<th>All Aspects</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU Sustainability Policy:</strong></td>
<td>These are current policy documents guiding European environment policy.</td>
</tr>
<tr>
<td>- European Union’s 7th Environmental Action Plan 2013</td>
<td></td>
</tr>
<tr>
<td>- EU Sustainable Development Strategy 2006</td>
<td></td>
</tr>
<tr>
<td>- Europe 2020 strategy; for smart, sustainable and inclusive growth</td>
<td></td>
</tr>
<tr>
<td><strong>Our Sustainable Future, a Framework for Sustainable Development for Ireland (2012)</strong></td>
<td>This is a long-term plan to guide sustainable development and the green economy in Ireland.</td>
</tr>
<tr>
<td><strong>SEA Directive (2001/42/EC):</strong></td>
<td>Directive 2001/42/EC (and transposing Irish regulations) on the assessment of the effects of certain Plans and Programmes on the Environment (the SEA Directive). This directive established the requirement for SEA as part of high level decision-making process and the development of plans and programmes.</td>
</tr>
<tr>
<td>- European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I. No. 200 of 2011) as amended</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental Impact Assessment Directive (2014/52/EU):</strong></td>
<td>Directive (2014/52/EU) amends the previous EIA Directive (2011/92/EU) on the assessment of the effects of certain public and private projects on the environment. It introduces changes in EIA requirements across the EU such as the introduction of mandatory ‘Competent Experts’, changes to screening procedures, and mandatory post-EIA monitoring.</td>
</tr>
<tr>
<td>- Irish National Legislation expected in 2018</td>
<td></td>
</tr>
<tr>
<td><strong>EC Environmental Liability Directive (2004/35/EC):</strong></td>
<td>Directive 2004/35/EC (and transposing Irish regulations) seeks to prevent and remedy environmental damage – specifically, damage to EC protected habitats and species, water resources and land contamination which presents a threat to human health. It is based on the “polluter pays” principle – making operators financially liable for threats of or actual damage.</td>
</tr>
<tr>
<td>- The European Communities (Environmental Liability) Regulations, 2008 (S.I. No. 547 of 2008)</td>
<td></td>
</tr>
<tr>
<td><strong>Water Services Act 2013</strong></td>
<td>This Act transferred the responsibility of water and wastewater services from the Local Authorities to Irish Water. Under this Act Irish Water are responsible for the management of national water assets, maintenance of the water system, investment and planning, managing capital projects and customer care and billing.</td>
</tr>
<tr>
<td><strong>Ireland 2040, Our Plan - National Planning Framework (NPF)</strong></td>
<td>A 20-year strategy identifying strategic development requirements, infrastructure requirements and promoting sustainable strategies for the future.</td>
</tr>
<tr>
<td><strong>National Spatial Strategy (NSS) 2002-2020</strong></td>
<td>A 20-year planning framework for Ireland. Contains water-related provisions for the significant development of water services and infrastructure and protection of the water.</td>
</tr>
</tbody>
</table>

*Transposing or supporting Irish legislation included as relevant however this is not intended to be an exhaustive list*
<table>
<thead>
<tr>
<th>Plan, Programme, Policy, Legislation</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>County, City and Local Development Plans</td>
<td>Provides detailed and specific plans to allow for the proper planning and sustainable development of an area. Contains policies and objectives related to many environmental aspects including water.</td>
</tr>
<tr>
<td>Regional Spatial and Economic Strategies (RSES)</td>
<td>The regional spatial and economic strategies support the implementation of the National Spatial Strategy. They cover the three regions: the Southern, the Northern and Western, and the Eastern and Midland Region.</td>
</tr>
<tr>
<td>Planning and Development Act 2000 as amended and associated planning regulations (not listed here)</td>
<td>This act sets out the detail of regional planning guidelines, development plans and local area plans as well as the basic framework of the development management and consent system. It provides the statutory basis for protecting our natural and architectural heritage, the carrying out of Environmental Impact Assessment and the provision of social and affordable housing.</td>
</tr>
</tbody>
</table>

**Population, Economy, Tourism and Recreation, and Human Health**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aarhus Convention (Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters)</td>
<td>This convention grants the public the right to participate in, and access all aspects of the decision-making on environmental planning at local, national and transboundary government level.</td>
</tr>
<tr>
<td>Irish Water, Water Services Strategic Plan: A Plan for the Future of Water Services (2015)</td>
<td>The WSSP sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.</td>
</tr>
<tr>
<td>EU Tourism Policy, 2010</td>
<td>EU policy aims to maintain Europe’s standing as a leading destination while maximising the industry’s contribution to growth and employment and promoting cooperation between EU countries, particularly through the exchange of good practice. The EU’s competence in the tourism is one of support and coordination to supplement the actions of member countries.</td>
</tr>
<tr>
<td>Tourism Policy Statement; “People, Place and Policy – Growing Tourism to 2025”</td>
<td>This is the Tourism Policy Statement for Ireland which aims to grow the industry up to 2025 in terms of revenue and employment.</td>
</tr>
<tr>
<td>Tourism Action Plan 2016-2018</td>
<td>The NWRP contains 23 Actions which will be carried out in</td>
</tr>
<tr>
<td>Plan, Programme, Policy, Legislation</td>
<td>Scope</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>order to help achieve the overall policy objectives in the Government’s Tourism Policy Statement “People, Place and Policy – Growing Tourism to 2025”.</td>
<td></td>
</tr>
<tr>
<td>County-based recreation strategies (various)</td>
<td>Develops a framework to coordinate the objectives and targets of key stakeholders in a cohesive and integrated plan for the county, ensuring the provision, management and use of quality facilities and services for everyone, including future generations.</td>
</tr>
<tr>
<td><strong>Water Environment</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Water Framework Directive (2000/60/EC):</strong></td>
<td>The WFD establishes a standard EC strategic approach to managing groundwater, wetlands and surface water bodies to meet common environmental objectives.</td>
</tr>
<tr>
<td>• Environmental Quality Standards Directive 2008/105/EC (supporting directive)</td>
<td></td>
</tr>
<tr>
<td>• European Union (Water Policy) Regulations 2014 (S.I. No. 350 of 2014)</td>
<td></td>
</tr>
<tr>
<td>• The Surface Waters Regulations (S.I. No. 272 of 2009)</td>
<td></td>
</tr>
<tr>
<td>• The Groundwater Regulations (S.I. No. 9 of 2010)</td>
<td></td>
</tr>
<tr>
<td>• WFD River Basin Management Plans 2015-2021</td>
<td></td>
</tr>
<tr>
<td>• Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008)</td>
<td></td>
</tr>
<tr>
<td>• European Communities (Assessment and Management of Flood Risks) Regulations 2010. (S.I. No. 122 of 2010)</td>
<td></td>
</tr>
<tr>
<td><strong>Nitrates Directive (91/676/EEC):</strong></td>
<td>Directive 91/676/EEC purpose is to both reduce and prevent water pollution caused by nitrates from agricultural land. Further controls on nitrates have been introduced under the WFD.</td>
</tr>
<tr>
<td>• European Union (Good Agricultural Practice for Protection of Waters) Regulations 2014 (S.I. No. 31 of 2014) as amended</td>
<td></td>
</tr>
<tr>
<td><strong>EC Urban Wastewater Treatment Directive (91/271/EEC):</strong></td>
<td>Directive 91/271/EEC (and transposing Irish regulations) provides for protect to the environment from urban and industrial discharges and covers the collection treatment and discharge of domestic, mixed and industrial waste water.</td>
</tr>
<tr>
<td>• Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) as amended</td>
<td></td>
</tr>
<tr>
<td>• Waste Water Discharge (Authorisation) Regulations 2007 (S.I No. 684 of 2007)</td>
<td></td>
</tr>
<tr>
<td>• European Communities (Marine Strategy Framework) Regulations (S.I. No. 249 of 2011)</td>
<td></td>
</tr>
<tr>
<td>Plan, Programme, Policy, Legislation</td>
<td>Scope</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>European Communities Environmental Objectives (Groundwater) Regulations 2010 S.I. No. 9 of 2010</td>
<td>establishes a regime which sets groundwater quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.</td>
</tr>
<tr>
<td>Fish Directive (2006/44/EC)</td>
<td>Directive 2006/44/EC aims to protect or improve the quality of fresh waters which do or could support fish.</td>
</tr>
</tbody>
</table>

**Biodiversity, Flora and Fauna**

International and EU Conventions:
- UNESCO Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971
- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)

These international and EU conventions related to the protection of Biodiversity

EU Biodiversity Strategy, 2011

Strategy to halt the loss of biodiversity and ecosystem services in the EU.

Birds Directive (09/147/EC) and Habitats Directive (92/43/EEC):
- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011)
- European Communities (Birds and Natural Habitats) (Amendment) Regulations 2015 (S.I. No. 355 of 2015)

Directive 09/147/EC requires all EU Member States to take measures to protect all wild birds and their habitats. The Birds Directive aims to protect all of the 500 wild bird species naturally occurring in the European Union. Directive 92/43/EEC requires all EU Member States to ensure the conservation of a wide range of rare, threatened or endemic animal and plant species.

Actions for Biodiversity 2011-2016, Ireland’s National Biodiversity Plan

This plan follows on from the 2002 National Biodiversity Action Plan. The overarching target of the second plan is “That biodiversity loss and degradation of ecosystems are reduced by 2016 and progress is made towards substantial recovery by 2020”.


Irish legislation in relation to the protection of biodiversity.

Flora (Protection) Order 2015

Sets out the list of plant species protected by Section 21 of the Wildlife Act.

Quality of Salmonid Waters Regulations 1988 (S.I. No. 293 of 1988)

The objective of these regulations is the maintenance of water quality for salmon and trout freshwater species.

County Council Heritage and Biodiversity Plans

These Plans help to ensure that targets for species and habitat conservation in the National Biodiversity and Heritage Plans are translated into effective action at the local level.

**Material Assets**


Directive 2008/98/EC outlines the definitions related to
<table>
<thead>
<tr>
<th>Plan, Programme, Policy, Legislation</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Waste Management</strong></td>
<td>It requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.</td>
</tr>
<tr>
<td><strong>Waste Management Acts 1996-2005</strong></td>
<td>The Waste Management Acts provide for a general duty on everyone not to hold, transport, recover or dispose of waste in a manner that causes or is likely to cause environmental pollution.</td>
</tr>
<tr>
<td><strong>Department of the Environment, Community and Local Government, 2012, Waste Management in Ireland; A Resource Opportunity</strong></td>
<td>Sets out the roadmap for the management of waste in Ireland in order to move away from dependence on landfill, by putting in place the most appropriate technologies and approaches to reduce waste, while at the same time maximising the resources that we can recover from waste. It places renewed emphasis on the Waste Hierarchy, moving the emphasis from resource management, with landfill diversion as the key driver to resource efficiency and reducing reliance on finite resources. It takes account of the targets and requirements within the EU Waste Framework Directive.</td>
</tr>
<tr>
<td><strong>Regional Waste Management Plans (various), 2015</strong></td>
<td>For the purposes of waste management planning, Ireland is now divided into three regions: Southern, Eastern-Midlands and Connacht-Ulster.</td>
</tr>
<tr>
<td><strong>County-based waste management strategies and mineral plans</strong></td>
<td>Establishes a framework for the sustainable management of wastes generated in the county.</td>
</tr>
</tbody>
</table>

### Landscape and Visual Amenity

<table>
<thead>
<tr>
<th>Plan, Programme, Policy, Legislation</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Council of Europe (2006) European Landscape Convention</strong></td>
<td>The European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Created by the Council of Europe, the convention promotes landscape protection, management and planning, and European co-operation on landscape issues. It applies to all landscapes, towns and villages, as well as open countryside; the coast and inland areas; and ordinary or even degraded landscapes, as well as those that are afforded protection.</td>
</tr>
<tr>
<td><strong>A National Landscape Strategy for Ireland 2015-2025</strong></td>
<td>The National Landscape Strategy will be used to ensure that Ireland complies with the European Landscape Convention.</td>
</tr>
<tr>
<td><strong>County Landscape Character Assessments (LCA)</strong></td>
<td>The LCA classifies and describes the landscape in a county.</td>
</tr>
</tbody>
</table>

### Air Quality & Noise

<table>
<thead>
<tr>
<th>Plan, Programme, Policy, Legislation</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambient Air Quality Directive (2008/50/EC)</strong></td>
<td>Directive 2008/50/EC sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5).</td>
</tr>
<tr>
<td><strong>Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) and other regulations not</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Plan, Programme, Policy, Legislation

<table>
<thead>
<tr>
<th>Plan, Programme, Policy, Legislation</th>
<th>Scope</th>
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</thead>
<tbody>
<tr>
<td>listed here</td>
<td>PM$_{2.5}$ and nitrogen dioxide (NO$_2$).</td>
</tr>
</tbody>
</table>
  - Environmental Noise Regulation 2006  
    Statutory Instrument, S.I. No. 1401 of 2006 | Directive 2002/49/EC applies to noise to which humans are exposed, particularly in built-up areas, in public parks or other quiet areas in an agglomeration, in quiet areas in open country, near schools, hospitals and other noise-sensitive buildings and areas. |

### Climatic Change

<table>
<thead>
<tr>
<th>The Kyoto Protocol 2007</th>
<th>The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European community for reducing greenhouse gas (GHG) emissions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris Agreement 2015</td>
<td>Signed by nearly 200 countries the agreement with the United Nations Framework Convention on Climate Change (UNFCC) came into effect on 4 November 2016 and sets target to keep global temperature rise to under 2°C by 2050.</td>
</tr>
<tr>
<td>EU Energy and Climate (2020) Package 2009</td>
<td>The 2020 package is a set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020.</td>
</tr>
<tr>
<td>Climate Action and Low Carbon Development Act 2015</td>
<td>Provides the statutory basis by which the Minister for Communications, Climate Action and Environment must make and submit to Government a series of successive National Mitigation Plans (NMPs) and National Adaptation Frameworks (NAFs). When considering these plans and frameworks, Government must ensure that the national transition objective is achieved by the implementation of measures that are cost-effective. The Act provides that the first NMP was to be submitted to Government no later than 10 June 2017 and the first NAF must be submitted to Government no later than 10 December 2017.</td>
</tr>
<tr>
<td>National Climate Change Adaptation Framework (2012)</td>
<td>The “National Climate Change Adaptation Framework” provides the policy context for a strategic national adaptation response to climate change in Ireland and is designed to evolve over time as planning and implementation progresses, and as further evidence becomes available.</td>
</tr>
<tr>
<td>National Renewable Energy Action Plan, 2010</td>
<td>Outlines Ireland’s national trajectories for the share of energies from renewable sources consumed in transport,</td>
</tr>
</tbody>
</table>
### Plan, Programme, Policy, Legislation

<table>
<thead>
<tr>
<th><strong>Scope</strong></th>
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<tbody>
<tr>
<td>electricity, heating and cooling between now and 2020.</td>
</tr>
</tbody>
</table>

| **Offshore Renewable Energy Development Plan, 2014** |
| Describes the policy context for the development of offshore wind, wave and tidal energy in Irish waters. |

### Cultural Heritage (Architectural & Archaeology)

<table>
<thead>
<tr>
<th><strong>EU Conventions on Archaeological, Architectural and cultural heritage:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Convention for the Protection of the Architectural Heritage of Europe (Granada 1985)</td>
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<tr>
<td>• The European Convention on the Protection of the Archaeological Heritage (Valletta 1992)</td>
</tr>
<tr>
<td>• Council of Europe Framework Convention on the Value of Cultural Heritage for Society (Faro 2005)</td>
</tr>
<tr>
<td>EU conventions related to the protection of Archaeological, Architectural and cultural heritage.</td>
</tr>
</tbody>
</table>

| **The Heritage Act 1995** |
| This Act aims to promote public interest in and knowledge, appreciation and protection of the national heritage. |

| **National Monuments Act (Amendment) 2004** |
| Under these regulations, it is illegal to do any of the following things to a national monument; (a) to demolish or remove it wholly or in part or to disfigure, deface, alter, or in any manner injure or interfere with it, or (b) to excavate, dig, plough or otherwise disturb the ground within, around, or in proximity to it, without consent. |

| **Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999** |
| This Act provides for the establishment of a national inventory of architectural heritage and for related matters and to provide for the obligations of sanitary authorities in respect of registered historic monuments. |

| **County Heritage Plans** |
| Local Authorities are responsible for developing Heritage Plans to raise awareness for local heritage and promote the conservation of the built, natural and cultural heritage of the county. |

### Geology and Soils

| **Rural Development Programme 2014-2020** |
| This programme sets out the rural development plan for the six-year period, including improving water quality and water management by setting out a choice of rural development measures for increasing efficiency in water use by agriculture, fertiliser and pesticide management, soil erosion and improving soil management. |

| **Action Plan for Rural Development; Realising our Rural Potential** |
| This document presents an action plan for sustainable rural development including the need to address water management. |