

Natura Impact Statement for the Water Services Strategic Plan

Customer



Water



Wastewater



Environment



Growth



Investment





Executive Summary

Section 33 of the *Water Services (No.2) Act (2013)* requires that Irish Water prepares a Water Services Strategic Plan (WSSP) that sets out Irish Water's objectives over a 25 year period. The WSSP is a high-level overarching strategy that sits at the highest tier (known as Tier 1) of water services planning in Ireland. The strategies contained within the WSSP will be realised through a number of Implementation Plans (IPs) (Tier 2), with the specific projects and activities that are necessary to fulfil the provisions of the WSSP and IPs detailed at Tier 3 of the hierarchy. Consequently, the WSSP is not spatially specific and does not identify specific projects or schemes.

Article 6(3) of the Habitats Directive 92/43/EEC requires that competent authorities assess the potential impacts of plans and programmes on the Natura 2000 network of European protected sites to determine whether there will be any 'likely significant effects' (LSE) as a result of a plan's implementation (either on its own or 'in combination' with other plans or projects); and, if so, whether these effects will result in any adverse effects on the site's integrity. The provisions of the Habitats Directive 92/43/EEC are transposed into Irish law by the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended). The WSSP is a strategic plan and as such is subject to the provisions of Article 6(3) and the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended). Part 5 of the 2011 Regulations essentially describes a two-stage process for the assessment of plans and projects under Article 6(3), comprising 'screening' (sometimes referred to as 'AA screening') and 'Appropriate Assessment' (AA).

Irish Water has prepared the WSSP and the Boards of Irish Water and Ervia (as the parent company of Irish Water) will adopt the plan. Therefore, Irish Water is the competent authority in relation to determining the Appropriate Assessment of the WSSP.

Irish Water, supported by AOS Planning, undertook initial screening of the emerging WSSP in June 2014. This screening concluded that the WSSP requires AA since it is not directly connected with or necessary to the management of a European site; and it may have significant impacts on the Natura 2000 network. Therefore, applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 AA was deemed required as the possibility of significant effects on the Natura 2000 network could not be excluded.

Amec Foster Wheeler Environment and Infrastructure UK Limited (Amec Foster Wheeler), under the management of Nicholas O'Dwyer Ltd., was commissioned by Irish Water to undertake the preparation of a Natura Impact Statement in support of the AA of the draft WSSP. The Natura Impact Statement was published alongside the draft WSSP for statutory public consultation between 19th February 2015 and the 17th April 2015. The WSSP aims and strategies were reviewed and potential impact pathways by which the integrity of European sites could be adversely affected identified. Appropriate measures that should be employed in the final WSSP to ensure that adverse effects do not occur as a result of the Plan's implementation were also proposed.

The assessment of the draft WSSP strategies demonstrated the following points.

- 49 of 68 strategies will have 'no effect' on any European sites (and therefore no 'in combination' effects either). The majority of these are directions to prepare lower-tier plans or undertake activities

that are themselves likely to be neutral in their effects (e.g. engage with stakeholders; operate an equitable New Connections Charging Policy; etc.).

- 12 strategies cannot be meaningfully assessed at this level (e.g. the strategies contain elements that could ultimately result in adverse effects on a European site, depending on future implementation, but is too unspecific to allow assessment at this point in the planning hierarchy).
- 7 strategies will have ‘no adverse effect’. These are generally strategies that commit to environmental protection or other compliance (e.g. with the Water Framework Directive) that are likely to have a positive effect on European sites (i.e. there will be an effect but it will not undermine any site’s conservation objectives).

Where there is uncertainty over the ultimate outcomes, environmental protection strategies and supporting text (e.g. Strategy EN1e) were identified to provide an appropriate safeguard to ensure that the delivery of the WSSP will not adversely affect the integrity of any European sites, particularly where assessment is not possible at this level in the hierarchy. These protective strategies will require that all lower-tier plans, strategies and projects derived from the WSSP avoid or appropriately mitigate any likely significant effects and potential adverse effects on integrity that may be identified during their development.

The draft WSSP was modified following consultation to take into account the responses received from the statutory consultation, the findings of the AA and Strategic Environmental Assessment (SEA). These modifications have been reviewed to ensure that the conclusions of the initial assessment, that the WSSP, with appropriate controls and mitigation measures, will not result in adverse effects on sites designated under the Habitats or Birds Directives, remain valid for the final, published WSSP.

Potential positive effects on European sites are not factored into the AA (the legislative test does not consider the balance of positive and negative effects). However, it is worth noting that the development of the WSSP, and the strategic management of water resources and wastewater provision by a national body, will help improve the condition of many European sites and support the achievement and maintenance of favourable conservation status across the Natura 2000 network.

Irish Water has concluded that the WSSP will have no adverse effect on any European site, although it will remain necessary to undertake AA on the lower-tier Implementation Plans and projects (Tier 2 and Tier 3, respectively) as these are developed.

Contents

1.	Introduction	1
1.1	The Water Services Strategic Plan	1
1.1.1	Development of the WSSP	1
1.1.2	WSSP Scope and Content	2
1.2	The Habitats and Birds Directives	2
1.2.1	Article 6 Assessments	3
1.3	This Report	4
2.	Approach	7
2.1	Guidance	7
2.2	Overview	7
2.3	Key Issues for AA of the WSSP	8
2.3.1	Understanding the Likely Outcomes of the WSSP	8
2.3.2	Uncertainty and ‘Down the Line’ Assessment	9
2.4	Summary of Approach	10
2.4.1	Screening	10
2.4.2	Scope of Assessment	11
2.4.3	Appropriate Assessment	11
3.	Ecological Baseline	16
4.	Impact Pathways Overview	20
4.1	Overview	20
4.2	Water Supply	21
4.3	Wastewater Treatment	23
5.	Appropriate Assessment of WSSP Strategies	26
5.1	Draft WSSP Review	26
5.1.1	Between-plan ‘In Combination’ Effects	43
5.1.2	Draft Strategy Conclusions	43
5.2	Managing and Avoiding Effects	44
5.3	Assessment of the Final WSSP	48
5.4	Strategies of the Final WSSP	49
5.5	Concluding Statement	52

Table 1.1	Amendments to the Revised Natura Impact Statement following Statutory Consultation	5
Table 2.1	Policy or strategy 'types' that can usually be excluded from further consideration	13
Table 4.1	Surface Water Bodies (SWB) and Ground Water Bodies (GWB) classed as '1a - at significant risk' or '1b – probably at significant risk' from abstraction in 2004 (<i>based on data from the EPA</i>)	22
Table 5.1	Colour coding for review of draft strategies	26
Table 5.2	Assessment of draft strategies under each WSSP aim	27
Table 5.3	Potential impacts arising from activities and projects likely to be undertaken in order to achieve the aims of the WSSP.	45
Table 5.4	Natura Impact Statement Recommendations	48
Table 5.5	Aims and Strategies of the Final WSSP	49
Appendix A	Draft WSSP Strategic Objectives, Aims and Strategies	
Appendix B	Natura Impact Statement Consultation Response Summary	
Appendix C	Appropriate Assessment Outline Screening Report	
Appendix D	Potentially Sensitive SAC Interest Features	
Appendix E	Potentially Sensitive SPA Species	

1. Introduction

1.1 The Water Services Strategic Plan

1.1.1 Development of the WSSP

Irish Water is responsible for the development and provision of water and wastewater services throughout Ireland, having assumed responsibility for this from the 34 local authorities in January 2014. Irish Water therefore supplies drinking water to over 80% of the population and has adopted a large portfolio of assets including pumping stations; approximately 60,000 km of water pipelines; 25,000 km of wastewater pipelines; around 900 water treatment plants (WTPs); and over 1,000 wastewater treatment plants (WwTPs).

Section 33 of the *Water Services (No.2) Act (2013)* requires that Irish Water prepares a Water Services Strategic Plan (WSSP) that sets out Irish Water's objectives in relation to the provision of water services over a 25 year period. The WSSP must address the following aspects.

- Drinking water quality.
- The prevention or abatement of risk to human health or environment relating to the provision of water services.
- Existing and projected demand for water services.
- Existing and planned arrangements for provisions of water services.
- Existing and reasonably foreseeable deficiencies in the provision of water services.
- Existing and planned water conservation measures.
- The management of the property of Irish Water.

Work on the WSSP began in early 2014 and included the publication of the WSSP Issues Paper in July 2014 which was subject to public consultation for a period of five weeks. Taking into account responses to the WSSP Issues Paper and consultation with statutory bodies and key stakeholders, Irish Water prepared the draft WSSP that was published for statutory consultation between 19th February 2015 and the 17th April 2015.

The final WSSP will be adopted by the Irish Water and Ervia Boards and submitted to Minister of the Environment, Community and Local Government (the Minister) for approval in July 2015. The WSSP is available to view via Irish Water's website at <http://www.water.ie>

1.1.2 WSSP Scope and Content

Irish Water’s vision for water services in the future is that:

“Through responsible stewardship, efficient management and strong partnerships, Ireland has a world-class water infrastructure that ensures secure and sustainable water services, essential for our health, our communities, the economy and the environment.”

To achieve this vision, the WSSP sets out six strategic objectives which in-turn are underpinned by a series of aims relevant to the various aspects of water services identified in the Water Services Act 2013. The WSSP contains a range of strategies that are intended to support the delivery of each strategic objective and their associated aims. In total, 68 strategies are included within the WSSP across the following chapters:

- Meet Customer Expectations: which contains six strategies;
- Ensure a Safe and Reliable Water Supply: which contains seventeen strategies;
- Provide Effective Management of Wastewater: which contains fourteen strategies;
- Protect and Enhance the Environment: which contains ten strategies;
- Support Social and Economic Growth: which contains nine strategies; and
- Invest in Our Future: which contains twelve strategies.

A full list of the draft WSSP strategic objectives and associated aims and strategies are contained in **Appendix A**.

The WSSP sets the context for subsequent implementation plans, some of which are identified in the plan strategies. These implementation plans will detail the programmes of works to be completed in specific water service areas, for example, water resource planning, sludge management planning, climate change adaptation and mitigation and wastewater compliance. Each implementation plan will ensure that Irish Water complies with its legal obligations, meets the objectives of the WSSP and Irish Water’s performance targets. The implementation plans will also take into account the findings of other relevant national, regional and local plans (e.g. river basin management plans and regional development plans). Consequently, the aims and strategies of the WSSP are not spatially specific and do not identify specific projects or schemes.

1.2 The Habitats and Birds Directives

The European Union’s Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna), in conjunction with the Birds Directive (Council Directive 2009/147/EC¹ on the conservation of wild birds) is the main legal tool of the European Union for nature conservation. The stated aim of

¹ Birds Directive (Council Directive 2009/147/EC¹ on the conservation of wild birds) is the codified version of Directive 79/409/EEC as amended

the Directive is to contribute to the maintenance of biodiversity within the European territory of the Member States through the conservation of natural habitats and of wild fauna and flora of Community interest. The Birds Directive was adopted in 1979 by nine Member States, and was the first EU Directive on nature conservation. Since its adoption it has been a vital legal instrument for the conservation of all birds that occur naturally across the EU, acting in the broadest public interest to conserve Europe's natural heritage for present and future generations.

The Habitat Directive seeks to establish "Natura 2000", a network of protected areas throughout the European Community. It is the responsibility of each member state to designate Special Areas of Conservation (SACs) to protect habitats and species, which, together with the Special Protection Areas (SPAs) designated under the EU Birds Directive, form Natura 2000. Member States are required to maintain or restore at 'favourable conservation status' the habitats and species of Community Importance listed in Annex I and II of the Habitats Directive.

According to the Habitats Directive (Article 1(I)) an SAC means a site of Community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated.

SPAs are classified under Article 4 of the Birds Directive. These areas are designated in order to protect endangered bird species listed in Annex I or migratory species.

1.2.1 Article 6 Assessments

Article 6(3) of the Habitats Directive 92/43/EEC requires that competent authorities assess the potential impacts of plans and projects on the Natura 2000 network of European protected sites² to determine whether there will be any 'likely significant effects' (LSE) as a result of a plan's or project's implementation (either on its own or 'in combination' with other plans or projects); and, if so, whether these effects will result in any adverse effects on the site's integrity.

Article 6(4) of the Habitats Directive sets out the decision-making tests which must be applied to plans or projects that may impact a Natura 2000 site. Article 6(4) also requires compensatory measures to ensure that the coherence of the Natura 2000 network is protected if adverse effects on a European site cannot be avoided or mitigated. The provisions of the Habitats Directive 92/43/EEC are transposed into Irish law by the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended).

² Natura 2000 is the European network of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under Directive 92/43/EEC (the 'Habitats Directive') and Directive 2009/147/EC (the 'new wild birds directive') respectively. These sites are protected by Article 6(3) of the Habitats Directive (this applies to SACs from the point at which the European Commission and the Government agree the site as a 'Site of Community Importance' (SCI)). Article 6(3) of the Habitats Directive and Article 4(4) of the Birds Directive also apply (respectively) to any other site or area that the Commission believes should be considered as an SAC or SPA, until their status is determined. Under the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended) the term 'European site' applies to any designated SAC or SPA; any SCI; any candidate SCI (cSCI); any candidate SAC (cSAC); and any candidate SPA (cSPA).

The process by which the impacts of a plan or project is assessed against the conservation objectives of a European site is commonly known as ‘Appropriate Assessment’³. European Commission guidance⁴ suggests a four-stage process for this assessment, although not all stages will necessarily be required (see **Box 1**).

Box 1 Stages of Article 6 Assessment

Stage 1 – Screening:

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

Stage 2 – Appropriate Assessment:

Where there are likely significant effects, this stage considers the effects of the plan or project on the integrity of the relevant European Sites, either alone or ‘in combination’ with other projects or plans, with respect to the sites’ structure and function and their conservation objectives. Where it cannot be concluded that there will be no adverse effects on sites’ integrity, it is necessary to consider potential mitigation for these effects.

Stage 3 – Assessment of Alternative Solutions:

Where adverse effects remain after the inclusion of mitigation, this stage examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of European Sites.

Stage 4 – Assessment Where No Alternative Solutions Exist and Where Adverse Impacts Remain:

This stage assesses compensatory measures where it is deemed that the project or plan should proceed for imperative reasons of overriding public interest (IROPI). The EC guidance does not deal with the assessment of IROPI.

The WSSP is a strategic plan and as such is subject to the provisions of Article 6(3) and the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended). As with Strategic Environmental Assessment (SEA), for Appropriate Assessment it is accepted best-practice for the assessment of strategic planning documents to be run as an iterative process alongside development of the plan, with the emerging proposals or options continually assessed for their possible effects on European sites and modified or abandoned (as necessary) to ensure that the final plan is not likely to result in significant or adverse effects on any European sites, either alone or ‘in combination’ with other plans. It is therefore important to recognise that the assessment of strategic plans is ideally as much about guiding the development of the plan (and demonstrating that this has been done) as it is about (ultimately) assessing its effects.

1.3 This Report

The provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC are transposed into Irish law by Part 5 of the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended). Part 5 essentially

³ ‘Appropriate Assessment’ has been historically used as an umbrella term to describe the process of assessment as a whole. This process is now more commonly divided into distinct stages, one of which is the Appropriate Assessment stage. The process as a whole is generally referred to as an ‘Article 6 Assessment’ (or sometimes as a ‘Habitats Directive Assessment’) for convenience, although these terms are not included within the legislation.

⁴ EC (2001). *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission guidance produced by the Impacts Assessment Unit, Oxford Brookes University.

describes a two-stage process for the assessment of plans and projects under Article 6(3), comprising ‘screening’ (sometimes referred to as ‘AA screening’) and ‘Appropriate Assessment’ (AA).

Irish Water, supported by AOS Planning, undertook initial screening of the emerging WSSP in June 2014. This screening concluded that the WSSP requires AA since it is not directly connected with or necessary to the management of a European site; and it may have significant impacts on the Natura 2000 network. Therefore, applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 AA was deemed required as the possibility of likely significant effects on the Natura 2000 network could not be excluded.

Amec Foster Wheeler Environment and Infrastructure UK Limited (Amec Foster Wheeler), under the management of Nicholas O’Dwyer Ltd., was subsequently commissioned by Irish Water to undertake the preparation of a Natura Impact Statement in support of the AA of the draft WSSP and to determine whether any aspects of the WSSP (alone or in-combination) could have adverse effects on the integrity of any European site. The Natura Impact Statement was published alongside the draft WSSP for statutory public consultation between 19th February 2015 and the 17th April 2015. The comments received in relation to the AA are presented in **Appendix B**, with responses and actions that have been taken reflected in **Section 5** of this final version of the Natura Impact Statement accompanying the adopted WSSP.

The changes made to this revised Natura Impact Statement are summarised in **Table 1.1** below.

Table 1.1 Amendments to the Revised Natura Impact Statement following Statutory Consultation

Section	Amendment
new Section 3	Addition of new Ecological Baseline summary to provide context.
new Section 4	Assessment of the sensitivity of ecology and typical pathways for effects from generic water services of Irish Water.
Table 4.2	Revision of some assessment rationale and Recommendations for the Strategy based on improved knowledge from the consultation.
Table 4.3	New table detailing potential impacts arising from projects and activities identified to achieve the aims of the WSSP.
Section 5.3	Assessment of the strategies of the Final WSSP will ensure that adverse effects do not occur as a result of its implementation.
Section 5.4	Detailing of the wording of the final strategies of the WSSP showing amendments from the draft strategies.
Section 5.5	Update of the Concluding Statement for the AA Determination.

This report summarises the assessment of the draft WSSP, sets out the iterative process that has been undertaken to support the delivery of the WSSP and ensure that it meets the requirements of the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended), and assesses modifications to the final WSSP. The report should be read in conjunction with the AOS (2014) AA Screening Report (see **Appendix C**). More specifically, the report summarises:

- the approach to the AA of the draft WSSP (**Section 2**);
- the assessment of the draft WSSP strategies and aims, identifying potential impact pathways by which the integrity of European sites could be affected and appropriate measures to be employed in the final Plan to ensure that adverse effects do not occur as a result of the Plan's implementation (**Section 5.1**); and
- the assessment of the final WSSP (i.e. the plan proposed for adoption) following modifications identified during the consultation process and taking into account the findings of the assessment of the draft WSSP (**Section 5.3**).

2. Approach

2.1 Guidance

The following guidance has been used during the preparation of this Natura Impact Statement in support of the AA of the WSSP:

- DEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. Department of Environment, Heritage and Local Government, Dublin.
- European Commission (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission, Brussels.
- UK Water Industry Research Ltd (2012) *Strategic Environmental Assessment and Habitats Regulations Assessment - Guidance for Water Resources Management Plans and Drought Plans*. UKWIR, Queen Anne's Gate, London.
- RSPB (2008) *Appropriate Assessment of Spatial Plans in Northern Ireland. A guide to why, when and how to do it*. RSPB, Sandy, Beds.
- DTA Publications (2013) *The Habitats Regulation Handbook* [online]. Available at: <http://www.dtapublications.co.uk/handbook/>. Accessed 11.11.14.
- SNH (2012) *Habitats Regulations Appraisal of Plans: Guidance for plan-making bodies in Scotland*. Scottish Natural Heritage / David Tyldesley Associates.

Some of this guidance relates to the application of the Habitats Directive under UK law. These guidance documents are therefore used advisedly. Nevertheless, they clearly address the requirements of the parent legislation (Articles 6(3) and 6(4) of the Habitats Directive), and its practical implementation. Most of the principles and practices outlined in these documents are therefore entirely consistent with the requirements of the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended).

2.2 Overview

The current European Commission guidance⁵ suggests a four stage process for the assessment against Article 6, which is summarised in **Box 1**. The assessment process determines whether there will be any 'likely significant effects' (LSEs) on any European sites as a result of a plan's implementation, either on its own or 'in combination' with other plans or projects (screening) and, if so, whether it can be concluded that there will be no adverse effects on the sites' integrity (Appropriate Assessment).

⁵ *Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (EC 2002).

The standard stepwise approach summarised in **Box 1** works well at the project-level where the scheme/project design is established and possible effects on European sites can be quantitatively assessed with the benefit of detailed survey data. In contrast, the fundamental nature of the WSSP presents a number of distinct challenges for a 'strategic' AA; in particular, every possible outcome of the Plan cannot always be identified and assessed in detail, requiring reliance on precautionary 'avoidance measures' or mitigation within the text to ensure that adverse effects do not occur as a result of the Plan's implementation. It is therefore important to understand how the WSSP is developed, how it would operate in practice, and hence how it might consequently affect European sites when identifying suitable measures.

2.3 Key Issues for AA of the WSSP

2.3.1 Understanding the Likely Outcomes of the WSSP

Irish Water is responsible for the provision and development of water and wastewater services throughout Ireland. Its day-to-day activities include:

- The abstraction and storage of raw surface water or groundwater;
- The treatment of abstracted water to potable standard;
- The storage and distribution of treated water;
- The collection of wastewater from customers connected to the public wastewater sewer network;
- The collection and treatment of surface water where drains are connected to the public sewer network;
- The treatment of wastewater to a standard set by legislation;
- Discharging treated wastewater under licence/certification by the EPA;
- Management, reuse and disposal of residual wastes and sludges; and
- The construction, operation, maintenance and management of the infrastructure and assets required to deliver the above.

Most of these activities have the potential to affect European sites, either due to current operation or through any future development and capital works that may be required. Consequently, it is easy to perceive mechanisms by which strategic plans produced by Irish Water, to help plan and deliver its services, could have indirect effects on European sites.

The WSSP is a high-level strategy that sets a framework for Irish Water's development as a utility and establishes the broad principles for the management of its assets and delivery of its statutory obligations. It outlines the strategic direction for Irish Water over the short, medium and long-term, up to 2040, providing a basis for planning water services to meet environmental compliance commitments in a cost effective manner. This is done through the identification of 'aims' for the efficient delivery of services, and 'strategies' for meeting these.

It is therefore important to recognise that the WSSP is effectively a high-level policy document rather than a typical land-use plan, and that most of the components of the plan (the aims and strategies) are effectively policy statements. As a result, there is no detailed geographical context attributed to the WSSP aims and strategies⁶; rather, the aims and strategies will be realised through lower-tier (Tier 2) Implementation Plans which will set out in more detail how specific aspects of Irish Waters services will be managed or delivered. These Implementation Plans will include, for example, a National Water Resources Plan and a National Sludge Management Plan. Specific projects and activities that are necessary to fulfil the provisions of the Implementation Plans will be detailed at a lower-tier still (i.e. Tier 3 Projects).

As a result, the aims and strategies within the WSSP are necessarily high-level. Whilst they may address or identify the broad service-provision requirements, or set a direction for future capital or operational investment, they are not spatially specific and do not identify specific projects or schemes. This is beyond its remit.

Critically, the WSSP is not advocating a ‘business as usual’ approach to the future management and operation of transferred assets. Improving the environmental performance of assets, and ensuring their compliance with all relevant legislation and standards, are fundamental: the outcome of the plan will not be an abstraction and discharge regime that maintains the status quo; rather the outcome will be continuous improvement and investment in water and wastewater services to ensure that environmental performance is improved until all Irish Water assets meet the relevant legislative requirements.

2.3.2 Uncertainty and ‘Down the Line’ Assessment

The WSSP will influence the future provision of water and wastewater services in Ireland by providing the context for the future implementation plans and so there are many conceivable ways in which it could therefore have an indirect influence on European sites. However, due to its wide scope, position in the planning hierarchy and long-term outlook there are inevitably a large number of uncertainties inherent within it and its outcomes. For example, a high-level aim advocating asset management could (arguably) lead to development on or near a European site; equally, it may not. Assuming direct effects such as this would ignore all the other stages and tiers in the planning process, and the opportunities for mitigation and avoidance that these provide. Often, specific effects on specific European sites cannot be identified and in searching for these effects there is a risk that the assessment begins to focus on effects that are ‘imaginable’ rather than ‘likely’, with a consequent risk that avoidance measures (i.e. protective measures incorporated into the policies) are not appropriately focused. What the higher-tier plan must avoid is making an adverse effect on a European site an inevitable or likely outcome, or constraining lower-tier plans and projects such that an effect becomes more likely.

As a result, the AA must consider and assess the strategies under each aim within the WSSP **appropriately**, whilst recognising (and mitigating) the inherent uncertainties within those strategies (i.e. the absence of any implementation details) and within the Plan itself.

⁶ i.e. the WSSP applies to the Republic of Ireland, but the aims and strategies are no more geographically explicit than this. Any spatial element is indirect only (e.g. an aim relating to waste water treatment arguably relates to a particular set of assets, the locations of which are largely known, but the aim will not relate to specific assets in specific locations).

It is recognised that some potential effects (or required mitigation) cannot be clearly determined at the strategic-level. In these instances, current guidance⁷ (in Scotland, for example) indicates that it may be appropriate and acceptable for some or all of the assessment to be undertaken ‘down-the-line’ at a lower tier in the planning hierarchy, if:

- the higher tier Plan appraisal cannot reasonably predict the effects on a European site in a meaningful way; whereas;
- the lower tier Plan, which will identify more precisely the nature, scale or location of development, and thus its potential effects, retains enough flexibility within the terms of the higher tier plan over the exact location, scale or nature of the proposal to enable an adverse effect on site integrity to be avoided; and
- Appropriate Assessment of the Plan at the lower tier is required as a matter of law or Government policy⁸.

It should also be noted that the European Commission guidance ‘*Managing Natura 2000 sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC*’ (EC, 2000) recognises that plans or plan components that are general statements of policy or political aspirations cannot have significant effects. Much of the WSSP (indeed, arguably the whole Plan) would meet this criterion.

2.4 Summary of Approach

2.4.1 Screening

The emerging WSSP as a whole was previously screened to determine whether AA is required; this screening concluded that the WSSP required AA since it is not directly connected with or necessary to the management of a European site; and because the possibility of significant effects on the Natura 2000 network could not be excluded. However, it should be noted that the screening was undertaken at an early stage in the Plan’s development (and therefore without the benefit of draft aims and strategies that could be assessed and modified), and on the Plan as a concept rather than draft strategies. The initial screening report noted that the screening would need to be revised and updated with the potential for some relevant European sites to be screened out based on the absence of particular habitats or species. In addressing the principal conclusions of the screening report (that an AA was required), attention moved beyond screening requirements and focused on revising and refining a methodology that appropriately assessed the effects on integrity that the WSSP could have, given the uncertainties regarding the nature, scale, duration and location of future development proposals (that would come forward under subsequent

⁷ SNH (2012) *Habitats Regulations Appraisal of Plans: Guidance for plan-making bodies in Scotland*. Scottish Natural Heritage / David Tyldesley Associates.

⁸ In some (rare) instances Government policy may extend the provisions that are strictly applicable to European sites (as defined by the *European Communities (Birds and Natural Habitats) Regulations 2011* (as amended)) to undesignated sites (typically those in the early stages of the designation process).

implementation plans). In consequence, screening out of sites in the manner original envisaged in the initial screening report was not pursued, due to the lack of necessary certainty.

Applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, the initial screening report identified that a Stage 2 AA was required as the possibility of likely significant effects on the Natura 2000 network could not be excluded. In consequence, the Plan has been subject to AA to ensure that the components of the Plan (i.e. the individual aims or strategies) are examined and modified as necessary, although it is possible that the individual component aims and strategies will, on examination, not have significant effects (see **Section 2.4.3** and **Table 2.1**). For example, it is difficult to see a ‘policy’ such as WSSP aim SG2b (*‘Plan water service infrastructure at national, regional and river basin level’*) as anything other than a neutral policy statement regards effects on European sites; the logical alternative (*‘plan water service infrastructure at a local level only’*) is clearly more likely to lead to significant effects European sites by limiting the options for the lower tier plans.

2.4.2 Scope of Assessment

The geographical scope of the assessment is set out in the Screening Report (see **Appendix C**). Since the WSSP covers all of the Republic of Ireland, and may have trans-boundary effects, the screening effectively considers all European sites that occur in the Republic (ROI) and Northern Ireland (NI) (other than those NI sites that are hydrologically separated from the Republic). There are 423 cSACs and 165 SPAs in ROI, with a further 57 SACs, SCIs or cSACs and 16 SPAs in Northern Ireland. The sites and qualifying features are listed in Appendix 1 of the AA Screening Report and so are not repeated in detail in the body of this document.

2.4.3 Appropriate Assessment

The assessment must consider the effects of the WSSP on the conservation objectives of those European sites that could be affected. The National Parks and Wildlife Service (NPWS) are in the process of developing conservation objectives for all European sites; these are essentially as follows:

- For SACs, *“To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected”*.
- For SPAs, *“To maintain the bird species of special conservation interest for which the SPA has listed, at favourable conservation status”*.

Favourable conservation status is generally defined as follows in the conservation objective documents:

- Favourable conservation status of a habitat is achieved when: *“its natural range, and area it covers within that range, are stable or increasing; and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and the conservation status of its typical species is favourable”*.
- Favourable conservation status of a species is achieved when: *“population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and the natural range of the species is neither being reduced nor is likely to be*

reduced for the foreseeable future; and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis”.

For some sites more detailed targets are provided by which the conservation objectives can be measured. In addition, the assessment has referred to the most recent Article 17 reports⁹ on the status of habitats and species in Ireland that are listed by the Habitats Directive¹⁰ and the Article 12 reports on the status of species listed by the Birds Directive¹¹. These provide useful contextual information on the status and condition of interest features at a national level.

However, given that the WSSP is not spatially specific and does not direct development to particular areas, there is limited merit in undertaking a detailed and specific examination of every European site, their interest features and their conservation objectives to try and determine which might (in theory) be more or less vulnerable to the imagined outcomes of the WSSP; the same applies to specific interest features or groups of interest features (e.g. water-resource sensitive habitats). Indeed, such an approach is potentially counterproductive by creating an unjustified focus on particular European sites and / or particular features; in reality, plans or projects derived from the WSSP could potentially affect any site or feature¹². Therefore, the European sites, interest features and conservation objectives have been referred to during the assessment process for information, in order to shape policy, but the effects of each strategy are not explicitly assessed on a site-by-site or feature-by-feature basis.

Assessment of the Draft WSSP

The assessment of any strategic plan primarily considers the potential outcomes of the individual strategies and policies (in this case, of the WSSP its aims and strategies) and the associated development of measures (generally wording changes) to ensure that significant or adverse effects are not a likely outcome of a plan.

The WSSP aims and strategies may have effects in their own right, or they may be used to control potential effects or prevent them occurring. When considering the likely effects of a strategy or policy, it is recognised that some policy or strategy ‘types’ cannot result in impacts on any European sites. This can be applied to the WSSP or its components to help shape the strategies and identify those aspects requiring further detailed consideration. It can also be used to determine whether more detailed assessment of any strategy or aspect is required. Different guidance documents suggest various classification and referencing systems to help identify those strategies that can

⁹ Article 17 of the Habitats Directive requires that Member States report to the European Commission every six years on the status of the habitats and species listed by the Directive, and the implementation of any measures taken under the Directive.

¹⁰ NPWS (2013) *The Status of EU Protected Habitats and Species in Ireland*. Volumes 1 – 3. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

¹¹ Article 12 of the Birds Directive requires that Member States report to the European Commission on the status of the Bird species listed under the Directive. The reporting cycles for the Birds Directive were amended to align them with the Habitats Directive. The latest report covers the period 2008-2012 inclusive.

¹² For example, new assets such as pipelines could arguably be sited anywhere.

be safely assessed as having no effect or no significant effects; the general characteristics of these policy or strategy types are summarised in **Table 2.1**.

Table 2.1 Policy or strategy ‘types’ that can usually be excluded from further consideration

Broad Type	Notes
General statements of policy / aspiration	The European Commission recognises* that plans or plan components that are general statements of policy or political aspirations cannot have significant effects; for example, general commitments to sustainable development. This would generally include policies which may promote change but where effects on any particular European site cannot be identified, because the proposal is too general (e.g. it is not known where, when or how the proposal may be implemented).
General design / guidance criteria or policies that cannot lead to or trigger development	A general ‘criteria based’ policy expresses the tests or expectations of the plan-making body when it comes to consider proposals, or relates to design or other qualitative criteria which do not themselves lead to development (e.g. controls on building design); however, policies with criteria relating to specific proposals or allocations should not be screened out.
External plans / projects	Plans or projects that are proposed by other plans and are referred to in the plan being assessed for completeness.
Environmental protection policies	Policies designed to protect the natural or built environment will not usually have significant or adverse effects (although they may often require modification if relied on to provide sufficient safeguards for other policies).
Policies which make provision for change but which could have no conceivable effect	Policies or proposals which cannot affect a European site (no impact pathways and hence no effect; for example, proposals for new cycle path several kilometres from the nearest European site) or which cannot undermine the conservation objectives, either alone or in combination, if impact pathways exist (no significant effect).

* EC, 2000, Managing Natura 2000 sites: the provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC April 2000 at 4.3.2

It must be noted that it is inappropriate to apply a classification tool uncritically. There will obviously be some occasions when a strategy or similar may have potentially significant effects, despite being of a ‘type’ that would normally be screened out.

The criteria in **Table 2.1** were applied critically to the assessment of the draft strategies within the draft WSSP to identify the following strategy groups:

- ‘**No effect**’ strategies: strategies that will have ‘no effect’ (i.e. strategies that self-evidently would not have any effect on a European site due to the type of strategy or its operation; for example, a broad strategy directing the preparation of a lower tier plan, which does not compromise or constrain the lower tier plan). Note that ‘no effect’ strategies cannot have in combination effects.
- ‘**No adverse effect**’ strategies: strategies where impact pathways theoretically exist but the effects will not be significant and adverse (alone or in combination).
- ‘**Uncertain effect**’ strategies: strategies where the precise effects on European sites (either alone or in combination) are uncertain, and hence additional investigation through the appropriate assessment stage or policy modification is required (note that further investigation will often demonstrate that there is no significant effect or allow suitable mitigation or avoidance measures to be identified to ensure this).

- **‘Likely significant and adverse effect’** strategies: strategies which are likely to have a significant effects (either alone or in combination), which are also likely result in an adverse effect on site integrity. These require additional investigation and / or modification (e.g. the provision of avoidance measures or protective caveats) to ensure that the final strategy, and hence the plan, has either no significant effect or no adverse effect. These strategies are more likely to require that the strategy be amended, abandoned or re-worked.
- **‘Cannot be assessed’** strategies: strategies that cannot be meaningfully assessed at this level in the planning hierarchy.

‘In combination’ Assessment

Article 6(3) of the Habitats Directive requires that the potential effects of the WSSP on European sites must also be considered ‘in combination with other plans or projects’. The ‘in combination’ assessment must also consider within-plan effects (i.e. between strategies). The consideration of ‘in combination’ effects is not a separate assessment, but is integral to the screening and AA stages and the development of avoidance/ mitigation measures. There is limited guidance available on the scope of the ‘in combination’ element, particularly which plans should be considered. However, the assessment should not necessarily be limited to plans at the same level in the planning hierarchy and there is consequently a wide range of plans that could have potential ‘in combination’ effects with the WSSP due to its national scale.

The plans identified by the SEA and the screening report have provided the basis for the assessment of ‘in combination’ effects; these plans were reviewed to identify any potential effects and these were then considered (as necessary) within the AA. Completion of the ‘in combination’ assessment is directly related to the strategy wording, and it will often be possible to remove any risk of ‘in combination’ effects through careful strategy construction.

Mitigation and Avoidance

The development of avoidance or mitigation measures is key to the AA and WSSP development process. Avoidance measures are those that are incorporated into a plan during its development to prevent adverse effects on European sites occurring; mitigation measures are used where specific significant effects are identified in order to prevent adverse effects on a particular site’s integrity, although in practice, with an emerging strategic plan, most measures are effectively avoidance measures.

Avoidance or mitigation measures should aim to reduce the probability or magnitude of impacts on a European site until ‘no likely significant effects’ or ‘no adverse effects’ will occur. These will generally involve the development and adoption of, for example, wording changes or additional strategies. Measures must be specific and targeted, and likely to work: it is not appropriate to re-state existing legislation, such as by adding “*and must have no significant effect on any European site*” (or similar) to every strategy. It should be noted that high-level strategies such as the WSSP often benefit from the use of overarching or cross-cutting protective strategies, particularly where effects cannot be meaningfully assessed at the plan-level, and lower tier plans are relied on to avoid significant and adverse effects.

Assessment of the Final WSSP

The final WSSP is issued following consultations with statutory authorities, and takes account of any changes recommended either by consultees or through the SEA and AA processes. It is therefore necessary to review the changes to the final plan to ensure that the conclusions of the draft assessment remain valid and/or that recommended avoidance or mitigation measures have been appropriately incorporated.

3. Ecological Baseline

Ireland has a range of varied habitats across the country, with a large number of sites that are designated as internationally, nationally or locally important for biodiversity. Internationally designated sites include Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) established under European Union Directives, and Ramsar sites designated as part of global agreements. National designations include Natural Heritage Areas, National Parks and Nature Reserves. The distribution of designated sites across Ireland is shown in **Figure 3.1**.

Ireland contains the following designated sites, all of which are subject to protective measures:

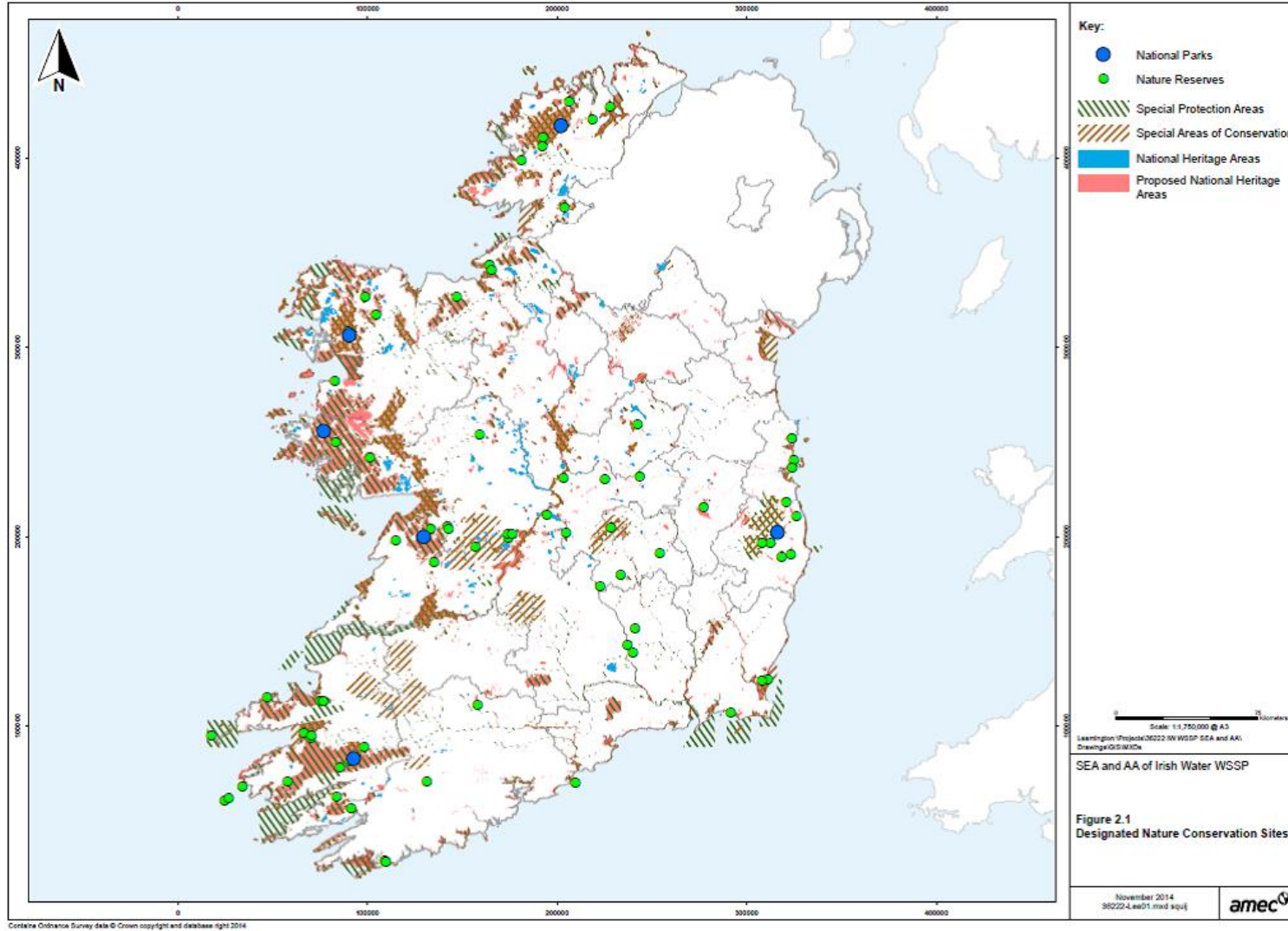
- 423 SACs designated under the Habitats Directive, covering an area of 13,500 km². Habitats which are protected through SACs in Ireland include raised bogs, blanket bogs, turloughs, sand dunes, heaths, lakes, rivers, woodlands, estuaries and sea inlets, with 53% of the SACs being land-based and the remainder marine or lakes. Salmon, otter, freshwater pearl mussel, bottlenose dolphin and Killarney fern are among the species protected by SACs¹³;
- 132 SPAs designated under the Birds Directive which cover an area of 5,700 m². This includes wetlands, bays and estuaries, agricultural and inland habitats and marine colonies. Key species include light-bellied Brent goose, black-tailed godwit, whooper swan, dunlin, knot, merlin, golden plover and dunlin¹⁴;
- 45 Ramsar sites, which are wetlands of international importance, including shallow marine waters, rocky shores, estuaries, intertidal mudflats or marshes, plus inland rivers, lakes, wetlands and peats. The majority of these sites are also SACs and/or SPAs.¹⁵

¹³ National Parks & Wildlife Service, SACs <http://www.npws.ie/protectedsites/specialareasofconservationsac/> (accessed 08/10/14)

¹⁴ National Parks & Wildlife Service, SPAs <http://www.npws.ie/protectedsites/specialprotectionareasspa/> (accessed 08/10/14)

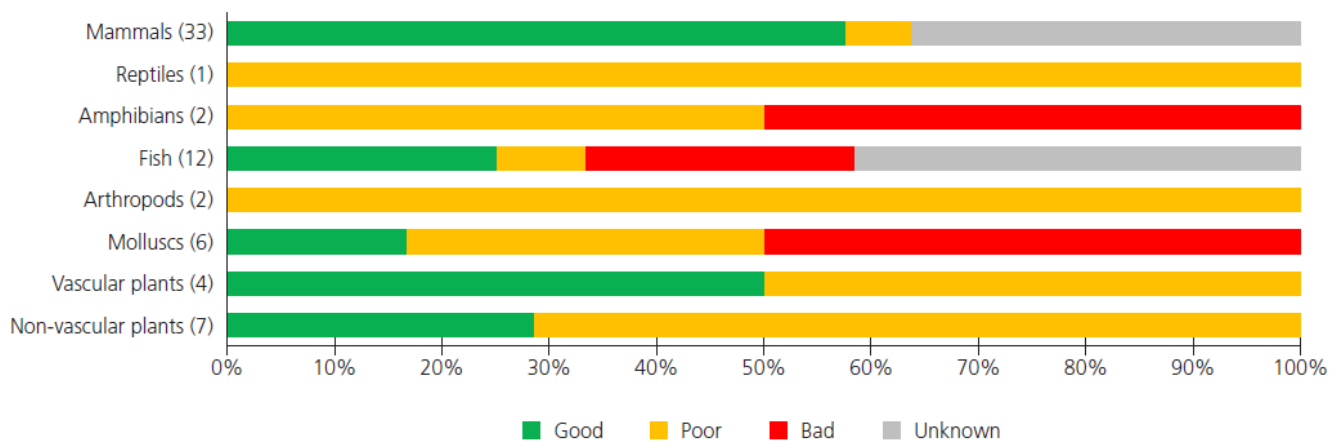
¹⁵ Irish Ramsar Wetlands Committee, Ramsar Locations in Ireland <http://www.irishwetlands.ie/maps.html> (accessed 08/10/14)

Figure 3.1 Distribution of Designated Nature Conservation Sites in Ireland



The majority of habitats protected under the Habitats Directive in Ireland are of ‘poor’ or ‘bad’ conservation status, with only 7% of habitats in ‘favourable’ status. **Figure 3.2** provides an overview of the condition of protected species in Ireland and serves to highlight that protected species including bats, seals and plants are in a slightly better position with 39% in favourable condition overall. However, wetland and freshwater species such as fish, molluscs and toads are typically in less good condition. Further to this, a red list (based on the International Union for the Conservation of Nature (IUCN) categories) identifies species of key conservation concern. The groups containing critically endangered species include: water beetles; non-marine molluscs; amphibians, reptiles and freshwater fish; and bees.

Figure 3.2 Overall Conservation Status of Species in Ireland Listed under the Habitats Directive by Major Species Group ((x) = number of occurrences)



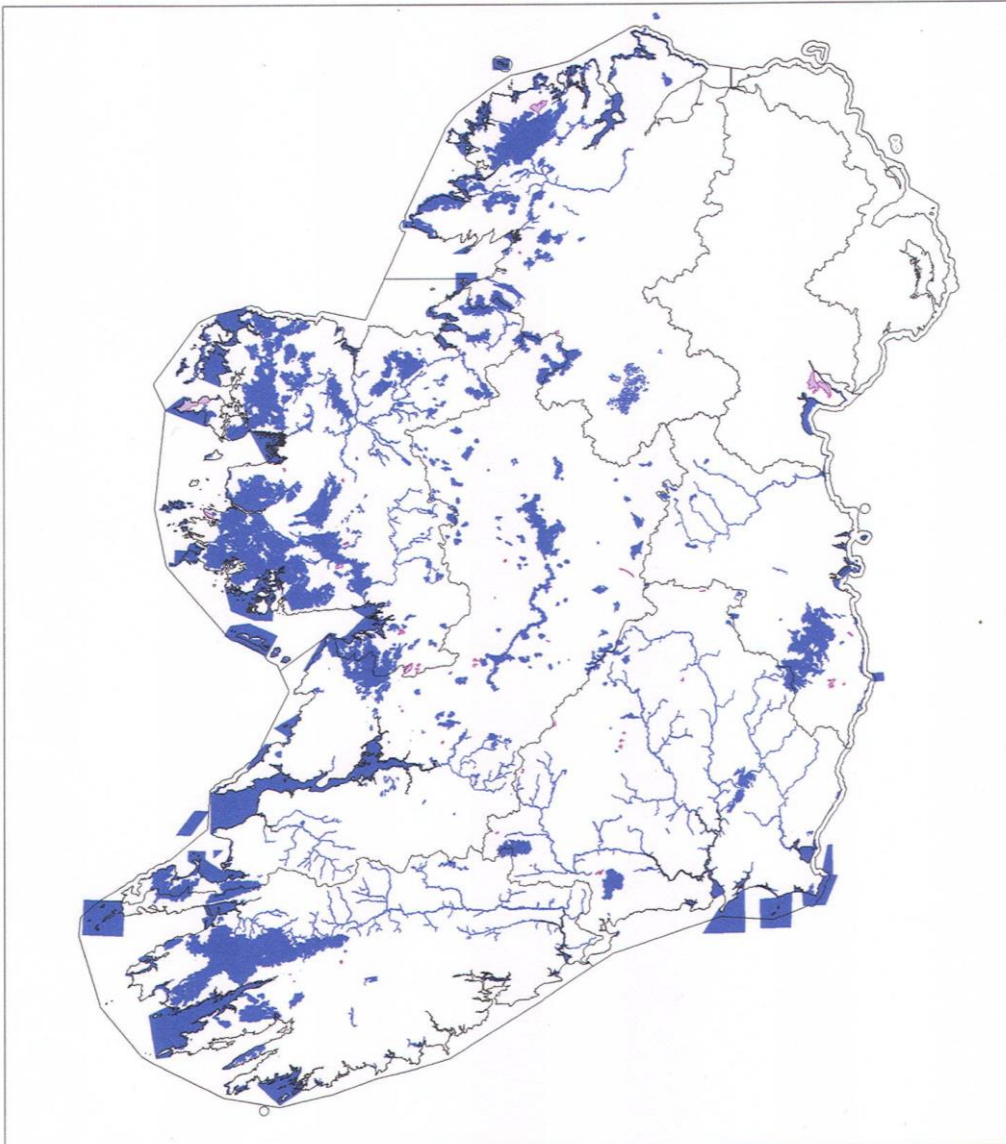
Source: Reproduced from EPA (2012) *Ireland's Environment 2012: Nature and Biodiversity*

The submission on the NIS from the National Parks and Wildlife Service highlighted that under the EU Habitats Directive, 45 Annex I habitats and 22 Annex II species have been identified as water-dependent for the purposes of identifying Special Areas of Conservation (SACs) on the Water Framework Directive Register of Protected Areas. The assessment of WFD Annex IV Protected Areas: Water Dependent Habitats and Species and High Status Sites¹⁶ states that 363 SACs which are either onshore or coastal have at least one water dependent Annex I listed habitat or Annex II listed species listed as a Qualifying Interest. These are presented in **Figure 3.3** below.

¹⁶ Mayes, E., 2008. *Water Framework Directive Annex IV Protected Areas: Water Dependent Habitats and Species*.

http://www.wfdireland.ie/docs/27_HighStatusSites/WATER%20DEPENDENT%20HABITATS%20AND%20SPECIES%20GUIDANCE_Part1.doc

Figure 3.3. Register of Protected Areas: SACs. Coastal and onshore SACs listed for water dependent habitats and species as a Qualifying Interest (in blue).



From: Mayes, E., 2008.

The last national summary for the Article 12 report (2008-2012)¹⁷ supporting the implementation of the Birds Directive lists 193 protected native bird species or taxa.

¹⁷ https://circabc.europa.eu/sd/a/a211d525-ff4d-44f5-a360-e82c6b4d3367/IE_A12NatSum_20141031.pdf

4. Impact Pathways Overview

4.1 Overview

As noted, the WSSP is effectively a high-level policy document that sets a framework for Irish Water's development as a utility company and establishes the broad principles for the future management of its assets and delivery of its statutory obligations. The WSSP does not advocate a 'business as usual' approach to the future management and operation of adopted assets; the outcome of the plan will not be an abstraction and discharge regime that maintains the status quo, but continuous improvement and investment in water and wastewater services to ensure that environmental performance is improved until all Irish Water assets meet the relevant legislative requirements. The WSSP does not refer to specific locations or individual projects, nor does it give or imply consent for any specific operations.

Having said that, the AA screening identifies typical activities that Irish Water is responsible for which have the potential to affect European sites, as follows:

- Water Supply
 - (Raw) Water abstraction (from surface or ground water);
 - Treatment of raw water to a potable water standard (the level of treatment required will depend on the quality of raw water abstracted);
 - Storage of raw and treated water;
 - Distribute treated water to customers through a pipe network; and
 - Construction, operation, maintenance and management of the above.
- Waste Water Treatment
 - Collection of wastewater from customers connected to the public wastewater sewer network;
 - Collection and treatment of surface water where surface water drains are currently connected to the public sewer network;
 - Treatment of wastewater to an acceptable standard set by legislation (the level of treatment required will depend on the type of receiving water and its assimilative capacity);
 - Discharging treated wastewater to surface or groundwater under licence/certification by the EPA; and
 - Construction, operation, maintenance and management of the above.

The principal pathways for operational effects as a result of Irish Water's activities are via its abstractions and discharges (although the WSSP does not consent or otherwise affirm these). However, the potential effects of the WSSP are arguably more wide-ranging than simple operational activities. The WSSP is a high-level policy document that sets a framework for Irish Water's development as a utility company and establishes the broad principles for the future management of its assets and delivery of its statutory obligations. Therefore, it is implicitly and explicitly supporting the continuous improvement and maintenance of its assets, and the delivery of new assets to improve (*inter alia*) efficiency and environmental performance and support social and economic growth. As a result, lower tier plans or (particularly) projects that follow from the WSSP could arguably be sited anywhere; and so could arguably affect any European site in Ireland. For example, rationalising water resource zones and increasing their resilience is likely to require pipeline construction to enable the transfer of water resources between zones. The routes of such pipelines could, in theory, go anywhere, and the impacts will be highly variable. It is obviously impossible to predict how European sites might be affected by future development, based on the information and policies available within the WSSP; therefore, it is necessary to ensure that the aims and strategies are sufficiently protective and will not constrain delivery in such a way that adverse effects are likely.

The effects of the WSSP will depend on the provisions it includes to support the future undertaking of these activities without adversely affecting any European sites. The following sections provide a summary of the environmental baseline with respect to the impact of water supply and wastewater treatment, and summarises the examination of the Article 17 and Article 12 reports for features where discharges and abstractions could present a threat or pressure.

4.2 Water Supply

A number of protected habitats and species within Ireland have interest features that are potentially vulnerable to the effects of abstraction or flow regulation and these were highlighted in the consultation response from the National Parks and Wildlife Service (presented in Appendix B). These features include most aquatic and semi-aquatic habitats or species, such as Atlantic Salmon *Salmo salar*, Otter *Lutra lutra*, or Natural Dystrophic Lakes. However, a number of terrestrial habitats are also strongly dependent on water levels being maintained or supported by ground water¹⁸ (e.g. Alkaline Fens) or surface water inputs (e.g. Alluvial Woodland), or by high water tables due to impeded drainage. Furthermore, other habitats or species often have quite subtle linkages to water supply; for example some studies have indicated that the number and densities of waterbirds around intertidal freshwater flows estuarine areas are consistently greater than across associated mudflats (Ravenscroft 1999; Ravenscroft & Beardall 2002; Ravenscroft & Emes 2004), suggesting that these flows may be important features in some SPAs.

Consequently, a wide range of sites in a variety of locations are potentially affected by abstraction (in particular) or flow regulation, and sites can often be located some distance from the source of any effect. This is particularly true for groundwater abstraction, where significant 'drawdown' of water tables can often occur several hundred metres or even kilometres from the abstraction point; and for rivers, where abstractions can affect downstream reaches or

¹⁸ Known as Groundwater Dependent Terrestrial Ecosystems (GWDTEs).

migrating species. The mechanisms by which features may be affected, and the consequences, are equally varied. For example, simple drawdown of groundwater can lead to the drying and loss of water-level dependent habitats and species; reductions in river flow at key times can prevent fish migration, and can concentrate pollutants; high ‘flushing flows’ in rivers may be required to maintain the quality of spawning gravels, but can be prevented by impoundments; saline or polluted water can be drawn into aquifers.

The broad effect of abstractions in Ireland can (to some extent) be gauged by reference to the ongoing WFD work, including the reporting sheets from 2005¹⁹. This work identifies the number of surface water bodies and ground water bodies that are categorised as either “1a – at significant risk” or “1b – probably at significant risk” from abstraction pressure in each River Basin District (RBD); these data are summarised in **Table 4.1**:

It should be noted that under the current round of preparation of RBMPs previous characterisation and risk assessment methodologies are being revised.

Table 4.1 Surface Water Bodies (SWB) and Ground Water Bodies (GWB) classed as ‘1a - at significant risk’ or ‘1b – probably at significant risk’ from abstraction in 2004 (based on data from the EPA)

RBD	SWBs classed as 1a		SWBs classed as 1b		GWBs classed as 1a		GWBs classed as 1b	
	No.	%	No.	%	No.	%	No.	%
Eastern	24	6%	8	2%	0	0%	5	7%
South East	16	2%	9	1%	4	3%	3	2%
South West	28	3%	28	3%	0	0%	1	1%
Shannon	27	3%	21	2%	0	0%	23	10%
Western	26	2%	9	1%	0	0%	7	7%
North West	51	6%	45	5%	0	0%	0	0%
Neagh Bann	2	2%	7	9%	1	4%	1	4%

These data illustrate that the number and proportion of surface and groundwater bodies at significant risk from abstraction is relatively low, when compared to other pressures: for example, in the Eastern RBD 78% of SWBs are classed as ‘1a - at significant risk’ or ‘1b – probably at significant risk’ from diffuse pollution; 23% from point-source pollution; and 63% from morphological pressures. This pattern is consistent across RBDs. It should also be noted that the table above refers to the risk from all types of abstraction and not just abstraction for public water supply.

The Article 17 report is feature rather than site-specific but identifies those SAC features for which groundwater or surface water abstractions are considered a pressure or a threat. 27 features (19 habitats and 8 species) have

¹⁹ EPA (2005) *Submission in accordance with Article 5 of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, and in accordance with EC-DG Environment D.2 document “Reporting Sheets for 2005 Reporting” dated 19 November 2004*

groundwater or surface water abstractions identified as a pressure or threat; PWS abstractions are specifically noted as threats or pressures for five of these features (Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*); Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation; *Vertigo geyeri*; and *Margaritifera margaritifera*). 239 SACs support at least one of the 27 abstraction-sensitive features, and so are theoretically sensitive to abstractions. However, the exposure of individual features at individual sites to abstraction pressure, and the significance of this, is not clear; and groundwater abstraction is not specifically identified as a pressure or threat for most features²⁰. SAC interest features that are theoretically sensitive to abstraction pressures are identified in **Appendix D**.

The Article 12 report (2008-2012)²¹ reviews the main pressures and threats reported for the taxa and states that one taxa is listed as having a high impact from “Natural System Modification” pressures which includes water abstraction from surface waters. A review of the Annex 12 factual report was undertaken to identify which bird species could theoretically be impacted by abstractions and this is presented in Table E.1 of **Appendix E**.

4.3 Wastewater Treatment

Many waterbodies and watercourses in Ireland are affected to some extent by point discharges associated with the management of wastewater, including outfalls from wastewater treatment plants (WwTPs) and Combined Sewer Overflows (CSOs)²². The effect of these discharges will be strongly influenced by other factors, notably water levels and flow regimes. Low flow periods in rivers, or reduced water levels and circulation within lentic (ecosystems in flowing) waterbodies, will exacerbate the effects of pollutants; flooding or high intensity rainfall / run-off (e.g. from urban areas) will increase the inputs of potential pollutants.

The most recent EPA Urban Waste Water Discharges update report for 2013²³ stated that 36% of waste water treatment plants did not meet all waste water quality standards or EPA guidelines; this is down from 42% in June 2012. All wastewater discharges from agglomerations are subject to Appropriate Assessment by the EPA as part of the discharge consent process. By the end of 2015, all wastewater discharges that are the responsibility of Irish

²⁰ Generally, for groundwater abstraction the pressures and threats are grouped under the broad category ‘*Water abstraction from groundwater*’, which includes PWS but which also includes pressures such as localised drainage.

²¹ https://circabc.europa.eu/sd/a/a211d525-ff4d-44f5-a360-e82c6b4d3367/IE_A12NatSum_20141031.pdf

²² All sewerage pipes have a certain capacity, determined by the size of the pipe and the receiving WTW. At times of high rainfall this capacity can be exceeded, with the risk of uncontrolled pipe bursts or damage. CSOs provide a mechanism to prevent this, by allowing untreated sewerage to mix with surface water run-off when certain volumes are exceeded. This is then discharged to the nearest watercourse.

²³ Environmental Protection Agency (Dec 2014). *Focus on Urban Wastewater Treatment in 2013*. <http://www.epa.ie/pubs/reports/water/wastewater/30086%20Urban%20Waste%20Water%20Web.pdf>

Water will be licensed or certified by the EPA under the Wastewater Discharge Licence Authorisation process and Appropriate Assessments will have been determined by the EPA as the competent authority.

The WFD provides some information on the condition of receiving waters in Ireland. The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters – surface, ground, estuarine and coastal – and protect, enhance and restore all waters with the aim of achieving at least ‘good’ status in all water bodies by 2015. All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and improve polluted water bodies to good status by 2015. Overall, the status of Ireland’s water bodies compared to the WFD target is:

- 71 per cent of river channel is at high or good status;
- 44.6 per cent of lake area monitored is at high or good status;
- 46 per cent of the area of transitional and coastal waters are at high or good status; and
- 85.6 per cent of the area of groundwater aquifers is at good status.²⁴

Figure 4.1 highlights the ecological status of water bodies located within the various RBDs, as identified in the 2009 River Basin Management Plans.

With regard to rivers, 71% of monitored river channel (13000km monitored) was classified as ‘unpolluted’ in the period 2007-11 with the remainder predominantly falling into the ‘slightly polluted’ or ‘moderately polluted’ categories. High quality water (high ecological status), needed for freshwater pearl mussels, has also been in decline for the last 20 years, dropping from almost 30% of river sites in 1990 to approximately 16% in 2009.

The Article 17 report identifies those SAC features for which point-source discharges (either from WwTPs or overflows) are considered a pressure or a threat. 14 features (9 habitats and 5 species) have ‘industrial’ discharges (which include WwTPs) or overflows identified as a pressure or threat; municipal WwTPs are specifically noted as threats or pressures for three of these features (Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*); Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*, Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.). 133 SACs support at least one of the 14 discharge-sensitive features, and so are theoretically sensitive to Irish Water discharges. However, the exposure of individual features at individual sites to the effects of Irish Water discharges, and the significance of this, is not clear.

With regard to protected species under the Birds Directive, the Article 12 report (2008-2012)²⁵ notes pollution as a high pressure or threat on 1 species, though the type of pollution is not stated. A review of the Annex 12 factual

²⁴ Environmental Protection Agency (2012) *Ireland’s Environment 2012: Water* http://www.epa.ie/media/00061_EPA_SoE12_Ch04.pdf (accessed 08/10/14)

²⁵ https://circabc.europa.eu/sd/a/a211d525-ff4d-44f5-a360-e82c6b4d3367/IE_A12NatSum_20141031.pdf

reports was undertaken to identify which bird species could theoretically be impacted by discharges. This is presented in Table E.1 of **Appendix E**.

Figure 4.1 Ecological Water Status as set out in the Draft River Basin Management Plans (2009)



Source: Reproduced from Regional Indicators Report Monitoring Framework for Implementation of the Regional Planning Guidelines (Regional Authorities of Ireland, 2014); data were sourced and adapted for this Regional Indicators Report from (a) status assessments carried out by the Environmental Protection Agency on behalf of the various River Basin Districts for their respective River Basin Management Plans; and (b) Surface water trends data for the period 2009 – 2011 (EPA, 2013).

5. Appropriate Assessment of WSSP Strategies

5.1 Draft WSSP Review

The assessment of the draft WSSP strategies (as presented in the Natura Impact Statement published alongside the draft WSSP) is summarised in **Table 5.2**. This considered each strategy under each aim, and took account of any cross-cutting protective strategies and aims (e.g. EN1). This is designed to identify those strategies that are likely to have a significant and adverse effect on the Natura 2000 network of European protected sites, and any appropriate mitigation or avoidance measures that may require inclusion in the adopted Plan to avoid this. Recommendations for strategy changes or amendments were made (i.e. to be included in the final, adopted plan) but it should be recognised that these are not intended to be prescriptive and a number of approaches for ensuring ‘no adverse effects’ may be acceptable. The colour coding used in the table is as follows:

Table 5.1 Colour coding for review of draft strategies

	Cannot be assessed – outcomes of strategy cannot be meaningfully assessed at this level; lower tier assessment required
	No effect – strategies that will have no effect on any European sites (generally no impact pathways, e.g. direction to prepare a plan)
	No adverse effect; strategy will not adversely affect any European sites and so can be excluded from further assessment
	No effect or no adverse effect, but amendments suggested to enhance the strategy or plan regards protection of European sites
	Strategy requires changes to avoid adverse effects (e.g. minor re-wording; referencing mitigating strategies), or effects are uncertain.
	Adverse effects likely; strategy should be abandoned or re-worked to include specific mitigation (may apply to policy groups)

Note that the inclusion of a strategy in the ‘red’ or ‘yellow’ category does not mean that adverse effects are certain and cannot be avoided since in many instances the assessment reflects an uncertainty that may need to be explored through further assessment. For some strategies a more detailed assessment may be required, even if there is some confidence that identified mitigation will be successful in avoiding adverse effects on integrity, to demonstrate that the potential effects have been suitably considered. The review also included an assessment of ‘in combination’ effects between strategies.

The likely outcomes of many of the strategies cannot be meaningfully assessed at this level (for example, the effects of Strategy WS1a “*Prepare a National Water Resources Plan and implement on a phased basis*” is entirely dependent on the content of the lower-tier plan, which has not yet been developed) and in this instance it is necessary to rely on future assessments of lower-tier plans to ensure that adverse effects are avoided. However, it is usually appropriate for the higher-tier plan to ensure (as far as it can) that effects on European sites are explicitly considered during the development of the lower tier plans and strategies; there are a number of approaches to this, but it commonly involves the inclusion of an over-arching policy statement or supporting text that sets out the expectations for the development of lower-tier plans.

Table 5.2 Assessment of draft strategies under each WSSP aim

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim CE1 – Establish both Customer Trust and a Reputation for Excellent Service					
CE 1a	Create and operate a lean and effective Customer Operation	No effects	-	This strategy aims to deliver best practice in customer operations. This is a general statement of policy / aspirations and therefore there is no impact pathway.	None
CE1b	Build and maintain accurate customer databases	No effects	-	This strategy aims to ensure accurate customer services and billing; it is a general statement of policy / aspirations and therefore there is no impact pathway.	None
CE 1c	Establish sustainable customer revenue	No effects	-	This strategy aims to secure funding necessary to deliver efficient and effective water services; it is a general statement of policy / aspirations and therefore there is no impact pathway.	None
CE1d	Establish effective communication channels with customers	No effects	-	This strategy aims to develop a Customer Communication Strategy; it is a general statement of policy / aspirations and therefore there is no impact pathway.	None
CE1e	Establish national customer service standards and robust customer protection measures	No effects	-	This strategy aims to develop appropriate customer expectation and deliver to these; it is a general statement of policy / aspirations and therefore there is no impact pathway.	None
CE1f	Fully support the work of the Public Water Forum	No effects	-	This strategy aims to address the comments and suggestions of the Public Water Forum in relation to the performance by Irish Water of its functions; it is a general statement of policy / aspirations and therefore there is no impact pathway.	None

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim WS1 – Manage the quality of drinking water from source to tap to protect human health					
WS1a	Prepare a National Water Resources Plan and implement on a phased basis	No effect	-	Strategy requires the preparation and implementation of a National Water Resources Plan (NWRP); the direction to prepare a Plan would not in itself lead to any effects (no impact pathway), and the NWRP will be subject to Appropriate Assessment during its development. The WSSP does not constrain how the NWRP is drafted or implemented, and therefore the WSSP cannot have significant effects (although the outcomes of the lower tier Plan could conceivably affect European sites). Any risk of effects can be avoided through overarching strategy setting out the expectations for the NWRP.	Strategy safeguards can be introduced to the WSSP to specify that Appropriate Assessment of lower tier plans will be required, and that these will not be considered compliant with the WSSP if significant adverse effects on European sites are not avoided or suitably mitigated; this can be addressed in the supporting text to EN1e (see Section 3.3).
WS1b	Prepare and implement Drinking Water Safety Plans for all Water Supply Zones.	No effect	-	Strategy requires the preparation and implementation of Drinking Water Safety Plans (DWSP); these will be used to assess risks to safety within the drinking water system and may result in capital investment or other measures to address these risks. The direction to prepare and implement a plan would not in itself lead to any effects (no impact pathway), and the DWSP is also unlikely to result in significant effects (identifying quality problems and investment needs does not constrain how those quality issues are addressed). The WSSP does not constrain how the DWSP is drafted or implemented, and therefore the WSSP cannot have any effects.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3)
WS1c	Implement Standard Operational Procedures for all water treatment plants, water storage facilities and distribution networks.	No effect	-	The direction to prepare and implement a Best Practice Guidelines or Standard Operations Procedures (SOPs) would not in itself lead to any effects (no impact pathway); the effects will ultimately depend on the Best Practice Guidance and Standard Operational Procedures themselves, and the extent to which European sites are safeguarded by the operational procedures. This can only be determined at the guidance / SOP level, although any risk of effects can be avoided through overarching strategy setting out the expectations for the SOPs.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3)
WS1d	Develop and Implement Capital Investment Plans to improve Drinking Water Quality.	No effects	-	Strategy requires the preparation and implementation of Capital Investment Plans (CIP); these will provide a prioritised list of programmes and projects for targeted investment, aimed at (inter alia) improving compliance with Drinking Water Standards. The direction to prepare and implement a plan would not in itself lead to any effects (no impact pathway), and identifying investment needs does not constrain how those quality issues are addressed.	Any risk of effects can be avoided through an overarching strategy setting out the expectations and requirements regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3).

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
WS1e	Prepare and implement a 'Lead Compliance Strategy'	No effect	-	Strategy requires the preparation and implementation of a Lead Strategy to address plumbo-solvency issues and potential contamination of supplies. The agreed Lead Strategy will be subject to its own Appropriate Assessment.	Any risk of effects can be avoided through AA of the Strategy regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3).
WS1f	Prepare and implement strategies to manage other quality issues in water supplies.	No effects	-	As for WS1e (direction to prepare and implement a Plan would not in itself lead to any effects (no impact pathway)).	None

Strategy and overview	Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy	
	Alone	In combination*			
Aim WS 2 – Manage the availability and resilience of water supply now and into the future					
WS2a	Implement risk assessments for all water supply areas in terms of short, medium and long term risks to customer supply.	No effect	-	Strategy requires the preparation of supply risk assessments to identify areas where supply improvements may be required to meet service standards. The direction to prepare a risk assessment would not in itself lead to any effects (no impact pathway), and identifying areas requiring service improvement does not constrain how those improvements are addressed.	None
WS2b	Manage existing water resources and plan for new resources taking a regional view of needs and having regard to the objectives of the Water Framework Directive (WFD).	No adverse effect	No adverse effect	Managing water resources sustainably to help meet the WFD objectives will ultimately benefit European sites.	Any risk of effects due to the lower tier projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier projects regards European sites; this can be addressed in the supporting text to EN1e.
WS2c	Develop long-term sustainable water sources with resilience to climate change.	No adverse effect	No adverse effect	Development of water resources could theoretically affect European sites although this can only be meaningfully assessed at the lower tier plans and projects when specific locations or sources are known; the commitment to 'sustainable' sources minimises the risk of effects, and any risk of effects due to the lower tier plans and projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier plans and projects regards European sites. The strategy does not constrain the outcome or dictate how sustainable water sources may be delivered.	Any risk of effects due to the lower tier projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier projects regards European sites; this can be addressed in the supporting text to EN1e.
WS2d	Develop methodologies to build strategic resilience and network connectivity into resource planning.	No effect	-	Strategy requires the development of methods; the direction to prepare these would not in itself lead to any effects (no impact pathway), introducing strategic resilience and network connectivity could theoretically affect European sites although this can only be meaningfully assessed at the lower tiers when specific locations or proposals are known. Any risk of effects due to the lower tier plans and projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier plans and projects regards European sites.	Any risk of effects due to the lower tier projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier projects regards European sites; this can be addressed in the supporting text to EN1e.
WS2e	Manage future regulatory requirements for abstraction licencing, headroom in treatment facilities and population growth.	No effect	-	Strategy essentially requires the development of integrated water resources planning; the direction to prepare these would not in itself lead to any effects (no impact pathway), and the WSSP does not constrain how these strategies/plans might be delivered.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
WS2f	Match water abstraction to availability and quality using surface water and groundwater sources. This is known as Conjunctive Use.	No effect	-	Strategy essentially requires the development of integrated water resources planning; the direction to prepare these water abstraction strategies would not in itself lead to any effects (no impact pathway), and the WSSP does not constrain how these strategies might be delivered. Any risk of effects due to the lower tier strategies or plans can be avoided through overarching strategy setting out the expectations and requirements for lower tier strategies/plans regarding European sites.	Any risk of effects due to the lower tier strategies or plans can be avoided through overarching strategy setting out the expectations and requirements for lower tier strategies/plans regarding European sites this can be addressed in supporting text to EN1e
WS2g	Prepare Regional Water Conservation Strategies and implement on a phased basis	No effect	-	Requires production of strategies to reduce demand; likely to have a positive effect on European sites, but the direction to prepare strategies would not in itself lead to any effects (no impact pathway), and identifying areas requiring service improvement does not constrain how those improvements are addressed.	Any risk of effects due to the lower tier strategies or plans can be avoided through overarching strategy setting out the expectations and requirements for lower tier strategies/plans regarding European sites this can be addressed in supporting text to EN1e

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim WS 3 – Manage the affordability of water supplies					-
WS3a	Adopt an asset management based approach to capital maintenance and capital investment.	No effect	-	This strategy relates to asset management procedures, particularly improving the knowledge of assets through planned National Data Gathering and Asset Condition Exercises; this will allow for maintenance etc. requirements to be identified at an early stage and appropriate capital investment decisions made. This is not likely to have an effect on any European sites.	None.
WS3b	Optimise the unit cost of water supply through proper water resource and treatment planning.	No effect	-	Minimising the unit cost of delivering water to the customer whilst meeting environmental compliance will result in the rationalisation of water supply areas over time and, subject to funding ability, will focus on a smaller number of sustainable sources, standardising treatment processes and using high quality raw water sources. This rationalisation approach will be developed within the National Water Resources Plan by the end of 2018. The strategy requires the preparation and implementation of a National Water Resources Plan (NWRP); the direction to prepare a Plan would not in itself lead to any effects (no impact pathway), and the NWRP will be subject to Appropriate Assessment during its development. The strategy is likely to ultimately reduce abstraction pressure on some European sites.	None
WS3c	Prepare and implement water conservation strategies including demand management.	No adverse effect	No adverse effect	Effects on European sites would depend on implementation, which cannot be meaningfully identified or assessed at this level. Any risk of effects due to the lower tier strategies can be avoided through an overarching strategy setting out the expectations and requirements for lower tier strategies regard European sites. However, water conservation strategies would generally be expected to benefit European sites.	Any risk of effects due to lower tier projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier projects regards European sites; this can be addressed in the supporting text to EN1e.
WS3d	Optimise capital and operational investments in water supply.	Cannot be meaningfully assessed	-	The strategy promotes the development of robust cost benefit analysis models and prioritisation models for works and strategies, which will satisfy the regulators. This process will be fully developed in the Capital Investment Plans. The strategy cannot be meaningfully assessed at this level.	Any risk of effects due to lower tier strategies or plans can be avoided through overarching strategy setting out the expectations and requirements for lower tier strategies/plans regarding European sites this can be addressed in supporting text to EN1e

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim WW1 – Manage the operation of wastewater facilities in a manner that protects environmental quality					
WW1a	Prepare and implement a Wastewater Compliance Strategy.	Cannot be meaningfully assessed	-	The Wastewater Compliance Strategy has not yet been drafted and therefore the strategy cannot be meaningfully assessed at this level.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3).
WW1b	Produce appropriate guidance documentation and Standard Operating Procedures.	No effect		The direction to prepare and implement a Best Practice Guidelines or Standard Operations Procedures (SOPs) would not in itself lead to any effects (no impact pathway); the effects will ultimately depend on the Best Practice Guidance and Standard Operational Procedures themselves, and the extent to which European sites are safeguarded by the operational procedures. This can only be determined at the guidance / SOP level, although any risk of effects can be avoided through overarching strategy setting out the expectations for the SOPs.	None.
WW1c	Develop and implement Capital Investment Plans on a prioritised basis to progressively achieve compliance.	Cannot be meaningfully assessed	-	These plans target capital investment to progressively achieve compliance, starting with the basic Urban Wastewater Treatment Directive requirements, progressing to Emission Level Value requirements arising from the implementation of the Water Framework Directive; this will ultimately have positive effects on European sites. Potential effects from individual schemes will be addressed through AA of the scheme. The strategy cannot be meaningfully assessed at this level.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e (see Section 3.3).
WW1d	Manage the wider potential environmental impacts associated with the construction and operation of wastewater systems	No adverse effect	No adverse effect	This is effectively a protective strategy which will include protection of European sites; there is no impact pathway for effects as a result of this strategy although it could usefully be strengthened by referencing the need to consider impacts on Natura 2000 sites.	Strategy could usefully be strengthened by referencing the need to prevent adverse effects on Natura 2000 sites (rather than simply managing impacts); this can be addressed in the supporting text to EN1e.

Strategy and overview	Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy	
	Alone	In combination*			
Aim WW2 – Manage the availability and resilience of wastewater services now and into the future					
WW2a	Implement risk assessments for all agglomerations in terms of short, medium and long term risks to customer service	No effect	-	Strategy requires the preparation of risk assessments to identify areas where improvements may be required to meet service standards or to comply with environmental legislation. The direction to prepare a risk assessment would not in itself lead to any effects (no impact pathway), and identifying assets (etc.) requiring improvement does not constrain how those improvements are addressed.	None.
WW2b	Manage existing wastewater assets and plan for new assets based on short, medium and long term sustainability.	Cannot be meaningfully assessed	-	Strategy aims to maintain service levels while having regard to requirements under the Water Framework Directive; planning water treatment services will ultimately have positive effects on European sites. Potential effects from individual schemes will be addressed through AA of the scheme.. The strategy cannot be meaningfully assessed at this level and any risk of effects due to the lower tier plans or projects can be avoided through an overarching strategy setting out the expectations and requirements for lower tier plans and projects regard European sites.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.
WW2c	Identify properties at risk of flooding from combined sewers, and implement measures to reduce risk on a phased basis	Cannot be meaningfully assessed	-	Identifying properties at risk of CSO flooding will not in itself have any effects; implementing measures to reduce risk may affect European sites depending on the proposals, although this cannot be meaningfully assessed at this level.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.
WW2d	Identify and manage critical wastewater assets.	Cannot be meaningfully assessed	-	Identifying critical assets will not in itself have any effects; managing these could have operational effects but this will be controlled by existing permitting regimes and the effects of this cannot be meaningfully assessed at this level.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim WW3 - Manage the Affordability and Reliability of Wastewater Services					
WW3a	Adopt an Asset Management Based Approach to capital maintenance and capital investment.	No effect	-	This strategy relates to asset management procedures, particularly improving the knowledge of assets through planned National Data Gathering and Asset Condition Exercises; this will allow for maintenance etc. requirements to be identified at an early stage and appropriate capital investment decisions made. This is not likely to have an effect on any European sites.	None.
WW3b	Develop and implement strategies and standards to minimise the unit costs of wastewater treatment including standardising treatment processes.	No effect	-	Strategy encourages standardisation of treatment processes; effects of this depend on the standard processes adopted but it is reasonable to assume that any outputs will comply with the relevant legislation including the Habitats Directive. Managing these could have operational effects but this will be controlled by existing permitting regimes.	None.
WW3c	Optimise energy consumption in wastewater treatment plants and collection systems.	Cannot be meaningfully assessed		Aims to reduce energy consumption; will have no effects that can be meaningfully assessed at this level.	None.
WW3d	Ensure adequate governance and control of discharges to the sewer network, having regard for best practice and value.	No adverse effect	No adverse effect	Ensuring that discharges to the sewer network (i.e. inputs to the treatment system) are controlled will not negatively affect European sites and may have a positive effect as assets are safeguarded from damage etc.	None.
WW3e	Engage with regulators and stakeholders.	No effect	-	Engagement with stakeholders cannot in itself have an effect.	None.
WW3f	Optimise capital and operational investments in wastewater services.	Cannot be meaningfully assessed		The strategy promotes the optimisation of expenditure to minimise costs to the customer whilst remaining compliant with the relevant legislation. Compliance will ensure that significant effects do not occur, taking into account the improvements that are required to meet various directives. Note, strategy cannot be meaningfully assessed at this level.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim EN1 – Ensure that Irish Water services are delivered in a sustainable manner which contributes to the protection of the environment					
EN1a	Implement a Sustainability Policy and Sustainability Framework	No effect	-	Strategy aims to ensure that Irish Water services are delivered in a sustainable manner balancing the need for water services to support the social and economic development of the country with the need to protect water resources and the water environment in the face of changing climate and extreme weather events. The adoption of a sustainability policy will not negatively affect any European sites.	None.
EN1b	Prepare and implement a Sustainable Energy Strategy.	No effects	-	As above.	None.
EN1c	Prepare and implement a climate change adaptation and mitigation strategy.	No effects	-	Strategy requires the preparation of a climate change strategy; the direction to prepare this would not in itself lead to any effects (no impact pathway), and outcomes of the strategy cannot be assessed at this level.	<p>The strategy could be usefully strengthened to emphasise the key role that Irish Water will play in preventing or mitigating effects on some European sites as a consequence of climate change, for example:</p> <p><i>“Our strategy will address the vulnerability of water services and the associated environment (including protected sites) to climate change and identify actions to modify our infrastructure or operations”</i></p>
EN1d	Adopt a Green Procurement Approach and drive efficient use of all our resources.	No effects	-	Aims to ensure that resources are utilised efficiently; the adoption of a green procurement approach would not in itself lead to any effects (no impact pathway).	None.
EN1e	Adhere to environmental and planning legislation when planning and developing water services assets.	No adverse effect	No adverse effect	Adhering to environmental and planning legislation will include adherence to the Habitats Directive, and therefore will have no significant and adverse effect.	None.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim EN2 - Operate our water services infrastructure to support the achievement of water body objectives under the Water Framework Directive					
EN2a	Work effectively with other stakeholders to support a catchment based approach to water management.	No effect		Engagement with stakeholders cannot in itself have an effect.	None.
EN2b	Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives	No adverse effect	No adverse effect	Managing water resources sustainably to help meet the WFD objectives will ultimately benefit European sites.	None.
Aim EN3 – Manage all our Residual Waste in a Sustainable Manner					
EN3a	Develop and implement a Corporate Waste Management Strategy.	No effects	-	The direction to prepare a waste management strategy would not in itself lead to any effects (no impact pathway).	Any risk of effects due to this lower tier strategy can be avoided through overarching strategy setting out the expectations and requirements for lower tier plans, strategies and projects regards European sites; this can be addressed in the supporting text to EN1e.
EN3b	Develop and implement a National Wastewater Sludge Strategy.	No effects	-	The direction to prepare a wastewater sludge strategy would not in itself lead to any effects (no impact pathway).	Any risk of effects due to this lower tier strategy can be avoided through overarching strategy setting out the expectations and requirements for lower tier plans, strategies and projects regards European sites; this can be addressed in the supporting text to EN1e.
EN3c	Develop and implement a National Water Sludge Strategy.	No effects	-	The direction to prepare a water sludge strategy would not in itself lead to any effects (no impact pathway).	Any risk of effects due to this lower tier strategy can be avoided through overarching strategy setting out the expectations and requirements for lower tier plans, strategies and projects regards European sites; this can be addressed in the supporting text to EN1e.

Strategy and overview	Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy	
	Alone	In combination*			
Aim SG1 - Support National, Regional and Local Economic and Spatial Planning Policy					
SG1a	Work with national, regional and local bodies and potential customers to anticipate and plan water services for growth in line with the statutory planning process.	No effect	-	Engagement with stakeholders cannot in itself have an effect; early planning of water services reduces the likelihood of significant effects occurring.	None.
Aim SG2 - Facilitate growth in line with national and regional economic and spatial planning policy					
SG2a	Maximise capacity of existing assets through effective asset management and optimised operation.	Cannot be meaningfully assessed	-	Maximising capacity will minimise the requirements for new infrastructure, which in most cases will ensure that significant effects on particular sites do not occur; however, there may be some instances where this is not appropriate, although these cannot be meaningfully identified or assessed at this level.	It is recommended that the strategy acknowledges that maximising capacity may not be appropriate in all instances, for example " <i>maximise capacity where appropriate...</i> "
SG2b	Plan water service infrastructure at national, regional and river basin level.	No adverse effect	No adverse effect	Planning water services at national, regional and river basin levels will not negatively affect European sites and is likely to result in benefits for some sites due to improved integration of catchment strategies.	None.
SG2c	Invest in the development of strategic networks and treatment works.	Cannot be meaningfully assessed	-	Strategic networks will ultimately reduce pressure on European sites as the system becomes more resilient and integrated; developing those networks may affect European sites during development, but this cannot be meaningfully assessed at this level; this can be addressed in the supporting text to EN1e.	None.
SG2d	Maintain appropriate headroom in strategic water services infrastructure.	Cannot be meaningfully assessed	-	Statement of best-practice; strategic networks will ultimately reduce pressure on European sites as the system becomes more resilient and integrated; developing those networks may affect European sites during development, but this cannot be meaningfully assessed at this level; this can be addressed in the supporting text to EN1e.	Any risk of effects due to this lower tier strategy can be avoided through overarching strategy setting out the expectations and requirements for lower tier plans, strategies and projects regards European sites; this can be addressed in the supporting text to EN1e.
SG2e	Provide a high quality customer service for new customers.	No effect	-	This strategy is a customer service commitment; it is a general statement of policy / aspirations and therefore there is no impact pathway and no effect.	None.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim SG3 - Ensure that water services are provided in a timely and cost effective manner					
SG3a	Plan for water services infrastructure development to meet projected demand facilitating delivery on a phased basis	Cannot be meaningfully assessed	-	Statement of best-practice; planning water services to meet projected demand will minimise the risk of impacts on European sites; meeting demand growth may ultimately affect some European sites during asset development, but this cannot be meaningfully assessed at this level; this can be addressed in the supporting text to EN1e.	Any risk of effects due to this lower tier strategy can be avoided through overarching strategy setting out the expectations and requirements for lower tier plans, strategies and projects regards European sites; this can be addressed in the supporting text to EN1e.
SG3b	Balance investment for growth in demand with affordability.	No effect	-	This strategy aims to ensure affordability to customers is paramount over investment in additional capacity, and that minimum cost to customers is ensured by providing capacity only when the demand is likely to be realised. One of the drivers for additional capacity (new sources or new treatment works, for example) will be the need to ensure regulatory compliance, and that European sites are not affected, and so the strategy in itself is neutral and will have no effects. However, it is important that this strategy is integrated closely with other planning aspects to ensure that the provision of additional water services (particularly wastewater treatment) is timely and delivered ahead of need.	Strategy supporting text could clarify the importance of environment as a factor in investment and ensuring that additional capacity is delivered in a timely manner to prevent significant effects on European sites occurring as a result of unexpected or unplanned growth. e.g. <i>"We are required to operate in a commercially viable and environmentally responsible manner and must take this into consideration when considering priorities for investment."</i>
SG3c	Operate an equitable New Connections Charging Policy that ensures efficient service provision to new customers with full cost recovery on a least cost basis.	No effect.	-	This strategy relates to the connections policy; it is a general statement of policy / aspirations and so there is no impact pathway and no effect.	None.

Strategy and overview	Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy	
	Alone	In combination*			
Aim IF1: Asset Management - Manage our assets and investments in accordance with best practice asset management principles to deliver a high quality secure and sustainable service at lowest cost.					
IF1a	Implement asset management systems including comprehensive asset data collection and modelling tools.	No effect	-	Commitment to introduce formalised asset management systems and data collection; no impact pathway.	None.
IF1b	Develop long term asset strategies and implementation plans (Tier 2 Plans).	No effect	-	Irish Water will develop a series of implementation plans defining the programmes of work to be implemented. These plans will develop the range of scenarios and options from which the optimum approaches and prioritisation will be determined. These Plans will take full account of the asset standards and policies adopted by Irish Water in shaping the strategic solutions. Where required, these plans will be subjected to Strategic Environmental Assessment and Appropriate Assessment, including public consultation. The direction to prepare a plan would not in itself lead to any effects (no impact pathway). The WSSP does not constrain how the lower tier plans are drafted or implemented, and therefore the WSSP cannot have significant effects. Any risk of effects can be avoided through an overarching strategy setting out the expectations for the lower tier plans.	Any risk of effects due to the lower tier Plans can be avoided through an overarching strategy setting out the expectations and requirements for lower tier Plans regards European sites; this can be addressed in the supporting text to EN1e.
IF1c	Development of initiatives such as asset standards and improved supply chain management.	No effect	-	Promotes general management good practice and innovation; general statement of policy; no impact pathways	None.

Strategy and overview		Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy
		Alone	In combination*		
Aim IF2: Balanced Sustainable Investment - Invest in our assets while maintaining a sustainable balance between the interests of our customers, the environment and the need to support the economic development and growth of the country.					
IF2a	Engage with our customers, including households, commercial and industrial customers.	No effect	-	No impact pathway: strategy for customer engagement will not affect any European sites.	None.
IF2b	Engage collaboratively with key stakeholders including CER, EPA, HSE, DECLG, regional and local authorities.	No effect	-	No impact pathway: strategy for engaging with stakeholders cannot in itself have an effect; early planning of water services reduces the likelihood of significant effects occurring.	None.
IF2c	Apply clear and transparent investment prioritisation criteria.	No effect	-	This strategy aims to apply transparent criteria for investment; this has no impact pathway and cannot in itself have an effect.	None
Aim IF3: Sustainable Funding Model - Establish a sustainable funding model to ensure that Irish Water can deliver the required capital investment in order to maintain critical assets and achieve the required outcomes for our customers, the environment and the national economy.					
IF3a	Transform the water industry in Ireland to an efficient water utility model within a regulated framework.	No effect	-	No impact pathway; strategy requires development of a business model that ensures that Irish Water can deliver the capital investment required to achieve the necessary outcomes for our customers, the environment and the national economy; development of business model cannot have an effect.	None.
IF3b	Work with regulators to achieve optimum balance of affordability and service standards taking into account regulatory requirements.	No effect	-	Strategy for engaging with regulators cannot in itself have an effect; strategy reflects need to take into account regulatory requirements.	None.
IF3c	Deliver on Irish Water's commitments to raise public awareness of the value of water and achievements delivered..	No effect	-	No impact pathway. Strategy aims to achieve best value for money from investment decisions.	None.

Strategy and overview	Predicted Effects		Likely outcomes and assessment rationale	Recommendations for strategy	
	Alone	In combination*			
Aim IF4: Research and Innovation. Promote research and proven, innovative technical solutions.					
IF4a	Actively pursue research and development in water services and track opportunities to develop and adopt new technologies.	No effect	-	No impact pathway; promoting Research and Development cannot in itself have an effect.	None.
IF4b	Engage effectively with universities, Institutes of Further Education, colleges and industry.	No effect	-	No impact pathway.	None
IF4c	Develop knowledge management capability and implementation processes.	No effect	-	No impact pathway.	None.

* Within plan in combination effects with other strategies

5.1.1 Between-plan ‘In Combination’ Effects

The screening identified a number of policies, plans and programmes that could theoretically operate ‘in combination’ with the WSSP to affect European sites (see Section 2.8 of the AA screening document in **Appendix C** attached). These included a number of European directives. The potential for these plans and programmes, and additional plans identified by the SEA (see Section 4.4.2 of the SEA Environmental Report), to operate ‘in combination’ was considered.

In summary, it is not possible to undertake a meaningful ‘in combination’ assessment due to the multiple uncertainties that exist regarding the outcomes of the WSSP and most of the ‘in combination’ plans (most are not spatially-specific and so effects on particular European sites cannot be identified or assessed; those that do have a spatial element (e.g. the Greater Dublin Strategic Drainage Strategy) will not constrain how the principles of the WSSP are delivered (or vice versa). As a result, it is recommended that the WSSP contain over-arching or cross-cutting strategies that provide certainty that plans or projects derived from it will not have significant adverse ‘in combination’ effects (see **Section 5.1.2** below).

5.1.2 Draft Strategy Conclusions

The assessment of the draft WSSP strategies demonstrated the following points.

- 49 of 68 strategies will have ‘no effect’ on any European sites (and therefore no ‘in combination’ effects either). The majority of these are directions to prepare lower-tier plans or undertake activities that are themselves likely to be neutral in their effects (e.g. engage with stakeholders; operate an equitable New Connections Charging Policy; etc.).
- 12 strategies cannot be meaningfully assessed at this level (e.g. the strategies contain elements that could ultimately result in adverse effects on a European site, depending on future implementation, but are too unspecific to allow assessment). In these instances it is suggested that the WSSP explicitly states that screening for AA should be undertaken for all lower-tier plans, strategies and projects derived from the WSSP, and that these plans, strategies and projects should (as part of their remit) ensure that they do not have significant adverse effects on any European sites.
- 7 strategies will have ‘no adverse effect’. These are generally strategies that commit to environmental protection or other compliance (e.g. with the WFD) that are likely to have a positive effect on European sites (i.e. there will be an effect but it will not undermine any site’s conservation objectives).

The assessment highlighted that some individual strategies could be strengthened by reference to the protection of European sites; however, inclusion of an overarching environmental protection strategy and supporting text (e.g. Aim EN1 and Strategy EN1e) that is specific to European sites will provide an appropriate safeguard to ensure that the delivery of the WSSP will not adversely affect any European sites, particularly where assessment is not possible at this level in the hierarchy. The following strategy amendments were recommended:

- **Supporting text to EN1c:** “*Our strategy will address the vulnerability of water services **and the associated environment (including protected sites)** to climate change and identify actions to modify our infrastructure or operations”.*

- **Supporting text to EN1e:** *“Safeguarding Ireland’s environmental assets will be central to all strategies, plans or projects derived from the WSSP, and to our activities and operations. In particular, all lower-tier strategies, plans or projects derived from the WSSP will, during their development, be screened for their potential to affect European sites, and must not have significant adverse effects on any such site, alone or in combination with other plans or projects. Lower-tier plans, strategies or projects that are likely to have significant adverse effects will not be considered compliant with the WSSP. The consideration of potential effects on European sites will be a fundamental component of the plan development”.*
- **Supporting text to SG3b:** *“We are required to operate in a commercially viable **and environmentally responsible** manner and must take this into consideration when considering priorities for investment.”*
- **Strategy SG2a:** *“Maximise capacity of existing assets through effective asset management and optimised operation, **where appropriate taking into account environmental factors**”.*

Assuming that these minor changes (or similar) were made, the assessment of the draft WSSP concluded that the Plan would have no significant and adverse effects on any European sites, alone or ‘in combination’ with other plans and programmes.

5.2 Managing and Avoiding Effects

Table 5.3 summarises how the WSSP manages the key risks to European sites identified in the AA screening report. As the WSSP is a high-level policy document it is not appropriate for it to detail specific measures for specific European sites; the aims and strategies within the WSSP are cross-cutting to ensure that together they provide the best possible basis for the long term protection and restoration of European sites that may be affected by underperforming assets adopted by Irish Water. The WSSP will ensure that investment in water and wastewater services is prioritised to improve environmental performance until all Irish Water assets meet the relevant legislative requirements.

Table 5.3 Potential impacts arising from activities and projects likely to be undertaken in order to achieve the aims of the WSSP.

WSSP Related Activities / Projects	Potential Impacts	Vulnerable Features of European Sites	How does the WSSP mitigate these potential impacts?
Water Supply	<ul style="list-style-type: none"> • Reduction of habitat area; • Reduction in species density; • Changes in key indicators of conservation value (water quantity). 	<p>Surface water dependent habitats and species;</p> <p>Groundwater dependent habitats and species.</p>	<p>The WSSP avoids, manages or mitigates the potential for these impacts to occur through the following policies:</p> <p>WS1a Prepare a National Water Resources Plan and implement on a phased basis.</p> <p>The NWRP will help ensure that abstractions maintain sustainable ecological water flows.</p> <p>WS2b Manage existing water resources and plan for new resources taking a regional view of needs and having regard to the objectives of the Water Framework Directive (WFD).</p> <p>This will ensure that the long term sustainability of yields is considered in the management of existing and new water sources, aligning with the requirements of the WFD with respect to environmental flows. The WFD includes European Sites in its register of Protected Areas and will consider water quantity requirements in relation to environmental flows.</p> <p>WS2c Develop long-term sustainable water sources with resilience to climate change.</p> <p>This will ensure that sustainable water sources are developed.</p> <p>WS2d Develop methodologies to build strategic resilience and network connectivity into resource planning.</p> <p>Strategic resilience and network connectivity will help relieve seasonal or long-term pressures on marginal water resources that may affect European sites through their operation.</p> <p>WS2f Match water abstraction to availability and quality using surface water and groundwater sources. This is known as Conjunctive Use.</p> <p>Will help relieve seasonal or long-term pressures on marginal water resources that may affect European sites through their operation.</p> <p>WS2g Prepare Regional Water Conservation Strategies and implement on a phased basis.</p> <p>Reductions in leakage will reduce abstraction pressures on European sites.</p> <p>EN2b Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives and the conservation of protected sites and species.</p> <p>Protective policy, will ensure that sites and species identified under the Birds and Habitats Directives are protected from operational impacts.</p> <p>SG1a Work with national, regional and local bodies and potential customers to anticipate and plan water services for growth in line with the statutory planning process.</p>

WSSP Related Activities / Projects	Potential Impacts	Vulnerable Features of European Sites	How does the WSSP mitigate these potential impacts?
Wastewater Treatment	<ul style="list-style-type: none"> • Reduction of habitat area; • Reduction in species density; • Fragmentation; • Changes in key indicators of conservation value (water quantity and quality). 	Surface water dependent habitats and species; Groundwater dependent habitats and species; Coastal transitional and marine habitats and species.	<p>Strategic planning is likely to reduce abstraction pressures.</p> <p>IF1a Implement asset management systems including comprehensive asset data collection and modelling tools.</p> <p>Irish Water have begun a National Asset Data Gathering and Asset Condition Exercise, to be completed by 2018, to provide sufficient data for effective asset planning and modelling; this will allow underperforming or marginal assets to be identified and (with other aims and strategies) measures defined to improve their performance.</p> <p>The WSSP avoids, manages or mitigates the potential for these impacts to occur through the following policies:</p> <p>WW1a Prepare and implement a Wastewater Compliance Strategy.</p> <p>This will contribute to the management of water quality to meet the UWWTD and the requirements of the Water Framework Directive River Basin Management Plans.</p> <p>WW1c Develop and implement Capital Investment Plans on a prioritised basis to progressively achieve compliance.</p> <p>This will prioritise capital investment to achieve compliance with the Urban Waste Water Treatment Directive and the Water Framework Directive; this will clearly benefit European sites and help improve the condition of sites that may be under pressure from WwTW / CSO discharges.</p> <p>WW2d Identify and manage critical wastewater assets.</p> <p>To build strategic resilience within the wastewater infrastructure to minimise the risk and consequence of critical asset failure. This will reduce the risk of acute effects on European sites due to asset failure.</p> <p>EN2b Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives and the conservation of protected sites and species.</p> <p>Protective policy, specifically designed to ensure that sites and species identified under the Birds and Habitats Directives are protected from operational impacts.</p> <p>IF1a Implement asset management systems including comprehensive asset data collection and modelling tools.</p> <p>Irish Water have begun a National Asset Data Gathering and Asset Condition Exercise, to be completed by 2018, to provide sufficient data for effective asset planning and modelling; this will allow underperforming or marginal assets to be identified and (with other aims and strategies) measures defined to improve their performance.</p>
Development of new water services infrastructure	<ul style="list-style-type: none"> • Loss / reduction of habitat area; • Disturbance to species; • Fragmentation; 	Surface water dependent habitats and species; Groundwater dependent habitats and species;	<p>The WSSP avoids, manages or mitigates the potential for these impacts to occur through the following policies:</p> <p>WW1d Manage the wider potential environmental impacts associated with the construction and operation of wastewater systems.</p>

WSSP Related Activities / Projects	Potential Impacts	Vulnerable Features of European Sites	How does the WSSP mitigate these potential impacts?
	<ul style="list-style-type: none"> • Changes in key indicators of conservation value. 	Terrestrial habitats and species; Coastal transitional and marine habitats and species.	<p>Requires that environmental impacts are avoided, managed or mitigated when new assets are developed; supported by EN1e.</p> <p>WW2b Manage existing wastewater assets and plan for new assets based on short, medium and long term sustainability.</p> <p>Appropriate planning, including long-term planning will minimise the risk of effects on European sites due to the development of new infrastructure.</p> <p>EN1e Adhere to environmental and planning legislation when planning and developing water services assets.</p> <p>Protective policy, specifically designed to ensure that sites and species identified under the Birds and Habitats Directives are protected from impacts as a result of asset development.</p> <p>SG2b Plan water service infrastructure at national, regional and river basin level.</p> <p>Appropriate planning will reduce pressures on existing assets that may operate marginally, and support the development of strategic assets / resources that operate more efficiently.</p>

5.3 Assessment of the Final WSSP

The final WSSP takes into account the consultation responses and any changes recommended through the SEA and AA processes. Since Article 6(3) and 6(4) tests apply to the final plan (rather than draft versions) it is necessary to review the changes to ensure that the conclusions of the draft assessment remain valid, or that any suggested avoidance or mitigation measures have been appropriately incorporated.

This review was undertaken in May 2015. **Table 5.4** below summarises the recommendations arising from the appropriate assessment of the draft WSSP together with how they have been incorporated into the final Plan. In summary, the changes to the aims and strategies suggested through the AA process have been appropriately incorporated into the final WSSP and will ensure that adverse effects do not occur as a result of its implementation.

Table 5.4 Natura Impact Statement Recommendations

Recommendation	Revisions incorporated in the final WSSP
<p>'Sustainable' could be defined within the WSSP, with this definition including reference to the safeguarding of European sites.</p>	<p>Sustainability is used in a number of different contexts with in the WSSP and it would be difficult to develop a definition to cover all contexts. However the term has now been included in Aims WS1 and WS2 in relation to water supply terms with specific reference to environmentally sustainable use of water, needs of the ecology supported by the water environment and ecological flows. Reference to managing abstractions sustainably to minimize the impact on protected habitats and species is also included in EN2b.</p>
<p>Supporting text to Strategy EN1c could be amended to read: <i>"Our strategy will address the vulnerability of water services and the associated environment (including protected sites) to climate change and identify actions to modify our infrastructure or operations"</i>.</p>	<p>Irish Water can only address the vulnerability of the associated environment directly affected by the operation of its water services. The following wording is incorporated:</p> <p><i>"Our strategy will address the vulnerability of water services and associated environment (including protected sites) to climate change events and identify actions to modify our infrastructure or operations"</i></p>
<p>Supporting text to Strategy EN1e could be amended to read: <i>"Safeguarding Ireland's environmental assets will be central to all strategies, plans or projects derived from the WSSP, and to our activities and operations. In particular, all lower-tier strategies, plans or projects derived from the WSSP will, during their development, be screened for their potential to affect European sites, and must not have significant adverse effects on any such site, alone or in combination with other plans or projects. Lower-tier plans, strategies or projects that are likely to have significant adverse effects will not be considered compliant with the WSSP. The consideration of potential effects on European sites will be a fundamental component of the plan development"</i>.</p>	<p>Additional commitment added to Strategy EN1e to ensure avoidance of potential significant adverse effects on biodiversity (including protected sites).</p> <p>However, Irish Water may at some point in the future (for imperative reasons of over-riding public interest) require a plan or project to have a significant adverse effect on a protected site.</p>
<p>Supporting text to Strategy SG3b could be amended to read: <i>"We are required to operate in a commercially viable and environmentally responsible manner and must take this into consideration when considering priorities for investment."</i></p>	<p>Incorporated.</p>

5.4 Strategies of the Final WSSP

The strategies that were amended specifically in relation to protected sites were:

- Aim EN2: Operate our water services infrastructure to support the achievement of water body objectives under the Water Framework Directive and our obligations under the Birds and Habitats Directives.

Strategy EN2b: Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives **and the conservation of protected sites and species**.

- Aim IF2: **Balanced Sustainable Investment** - Invest in our assets while maintaining a sustainable balance between **meeting** customer **standards**, **protecting** the environment and **supporting** the economic development and growth of the country.

In addition text specifically relating to protected sites was inserted into paragraphs underpinning strategies:

- EN1c – Prepare and implement a Climate Change Adaptation and Mitigation Strategy.
- EN1e – Adhere to environmental and planning legislation when planning and developing water services assets.
- SG3b – Balance investment for growth in demand with other priorities to ensure best outcome for our customers.

A list of the final strategies for the WSSP are presented in **Table 5.5** with the amendments to the draft WSSP strategies highlighted in **bold** or ~~strikeout~~.

Table 5.5 Aims and Strategies of the Final WSSP

Aim	Strategy
Meet Customer Expectations	
Aim CE1: Establish both Customer Trust and a Reputation for Excellent Service.	<ul style="list-style-type: none"> • CE1a: Create and operate a lean and effective Customer Operation. • CE1b: Build and maintain accurate customer databases. • CE1c: Establish sustainable customer revenue. • CE1d: Establish effective communication channels with customers. • CE1e: Establish national customer service standards and robust customer protection measures. • CE1f: Fully support the work of the Public Water Forum and establish effective communication with all our stakeholders.
Ensure a Safe and Reliable Water Supply	
Aim WS1: Manage the sustainability and quality of drinking water from source to tap to protect human health.	<ul style="list-style-type: none"> • WS1a: Prepare a National Water Resources Plan and implement on a phased basis. • WS1b: Prepare and implement Drinking Water Safety Plans for all Water Supply Zones. • WS1c: Implement Standard Operational Procedures for all water treatment plants, water storage facilities and distribution networks. • WS1d: Develop and Implement Capital Investment Plans to improve Drinking Water Quality. • WS1e: Prepare and implement a "Lead Strategy-in Drinking Water Mitigation Plan". • WS1f: Prepare and implement strategies to manage other quality issues in water supplies.

Aim	Strategy
<p>Aim WS 2: Manage the availability, sustainability and reliability of water supply now and into the future.</p> <p>Aim WS3: Manage the affordability of water supplies in an efficient and economic manner.</p>	<ul style="list-style-type: none"> • WS2a: Implement risk assessments for all water supply areas in terms of short, medium and long term risks to customer supply. • WS2b: Manage existing water resources and plan for new resources taking a regional view of needs and having regard to the objectives of the Water Framework Directive (WFD). • WS2c: Develop long-term sustainable water sources with resilience to climate change. • WS2d: Develop methodologies to build strategic resilience and network connectivity into resource planning. • WS2e: Manage future regulatory requirements for abstraction licencing, headroom in treatment facilities and population growth. • WS2f: Match water abstraction to availability and quality using surface water and groundwater sources. This is known as Conjunctive Use. • WS2g: Prepare Regional Water Conservation Strategies and implement on a phased basis. • WS3a: Adopt an asset management based approach to capital maintenance and capital investment. • WS3b: Optimise the unit cost of water supply through proper water resource and treatment planning. • WS3c: Prepare and implement water demand management and customer education strategies. • WS3d: Optimise capital and operational investments in water supply.
Provide Effective Management of Wastewater	
<p>Aim WW1: Manage the operation of wastewater facilities in a manner that protects environmental quality.</p> <p>Aim WW2: Manage the availability and resilience of wastewater services now and into the future.</p> <p>Aim WW3: Manage the Affordability and Reliability of Wastewater Services in an efficient and economic manner.</p>	<ul style="list-style-type: none"> • WW1a: Prepare and implement a Wastewater Compliance Strategy. • WW1b: Produce appropriate guidance documentation and Standard Operating Procedures. • WW1c: Develop and implement Capital Investment Plans on a prioritised basis to progressively achieve compliance. • WW1d: Manage the wider potential environmental impacts associated with the construction and operation of wastewater systems. • WW2a: Implement risk assessments for all agglomerations in terms of short, medium and long term risks to customer service. • WW2b: Manage existing wastewater assets and plan for new assets based on short, medium and long term sustainability. • WW2c: Identify properties at risk of flooding from combined sewers, and implement measures to reduce risk on a phased basis. • WW2d: Identify and manage critical wastewater assets. • WW3a: Adopt an asset management based approach to capital maintenance and capital investment. • WW3b: Develop and implement strategies and standards to minimise the unit costs of wastewater treatment including standardising treatment processes. • WW3c: Optimise energy consumption in wastewater treatment plants and collection systems. • WW3d: Ensure adequate governance and control of discharges to the sewer network, having regard for best practice and value. • WW3e: Engage with regulators and stakeholders. • WW3f: Optimise capital and operational investments in wastewater services.

Aim	Strategy
Protect and Enhance the Environment	
<p>Aim EN1: Ensure that Irish Water services are delivered in a sustainable manner which contributes to the protection of the environment.</p>	<ul style="list-style-type: none"> EN1a: Implement a Sustainability Policy and Sustainability Framework. EN1b: Prepare and implement a Sustainable Energy Strategy. EN1c: Prepare and implement a Climate Change Adaptation and Mitigation Strategy. EN1d: Adopt a Green Procurement Approach and drive efficient use of all our resources. EN1e: Adhere to environmental and planning legislation when planning and developing water services assets.
<p>Aim EN2: Operate our water services infrastructure to support the achievement of water body objectives under the Water Framework Directive and our obligations under the Birds and Habitats Directives.</p>	<ul style="list-style-type: none"> EN2a: Work effectively with other stakeholders to support a catchment based approach to water management. EN2b: Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives and the conservation of protected sites and species.
<p>Aim EN3: Manage all our Residual Waste in a Sustainable Manner.</p>	<ul style="list-style-type: none"> EN3a: Develop and implement a Corporate Waste Management Strategy. EN3b: Develop and implement a National Wastewater Sludge Strategy Management Plan. EN3c: Develop and implement a National Water Sludge Strategy Management Plan.
Support Social and Economic Growth	
<p>Aim SG1: Support National, Regional and Local Economic and Spatial Planning Policy.</p>	<ul style="list-style-type: none"> SG1a: Work Liaise with national, regional and local government bodies and potential customers to anticipate and plan water services for growth in line with the statutory planning process policy.
<p>Aim SG2: Facilitate growth in line with national and regional economic and spatial planning policy.</p>	<ul style="list-style-type: none"> SG2a: Maximise capacity of existing assets through effective asset management and optimised operation. SG2b: Plan water service infrastructure at national, regional and river basin level. SG2c: Invest in the development of strategic networks and treatment works. SG2d: Maintain appropriate headroom in strategic water services infrastructure. SG2e: Provide a high quality customer service for new customers.
<p>Aim SG3: Ensure that water services are provided in a timely and cost effective manner.</p>	<ul style="list-style-type: none"> SG3a: Plan for water services infrastructure development to meet projected demand facilitating delivery on a phased basis. SG3b: Balance investment for growth in demand with affordability other priorities to ensure best outcome for customers. SG3c: Operate an equitable New Connections Charging Policy that ensures efficient service provision to new customers with full cost recovery on a least cost basis.
Invest in Our Future	
<p>Aim IF1: Asset Management - Manage our assets and investments in accordance with best practice asset management principles to deliver a high quality secure and sustainable service at lowest cost.</p>	<ul style="list-style-type: none"> IF1a: Implement asset management systems including comprehensive asset data collection and modelling tools. IF2b: Develop long term asset strategies and implementation plans (Tier 2 Plans). IF2c: Development of initiatives such as asset standards and improved supply chain management.
<p>Aim IF2: Balanced Sustainable Investment - Invest in our assets while maintaining a sustainable balance between the interests of our meeting customer standards, protecting the environment and the need to supporting the economic development and growth of the country.</p>	<ul style="list-style-type: none"> IF2a: Engage with our customers, including households, commercial and industrial customers. IF2b: Engage collaboratively with key stakeholders including CER, EPA, HSE, DECLG, regional and local authorities. IF2c: Apply clear and transparent investment prioritisation criteria.

Aim	Strategy
Aim IF3 : Sustainable Funding Model - Establish a sustainable funding model to ensure that Irish Water can deliver the required capital investment in order to maintain critical assets and achieve the required outcomes for our customers, the environment and the national economy.	<ul style="list-style-type: none"> • IF3a: Transform the water industry in Ireland to an efficient water utility model within a regulated framework. • IF3b: Work with regulators to achieve optimum balance of affordability cost and service standards taking into account regulatory requirements. • IF3c: Deliver on Irish Water's commitments to raise public awareness of the value of water and achievements delivered.
Aim IF4: Research and Innovation - Promote research and proven, innovative technical solutions to meet standards set by our regulators including our objectives for cost and energy efficiency.	<ul style="list-style-type: none"> • IF4a: Actively pursue research and development in water services and track opportunities to develop and adopt new technologies. • IF4b: Engage effectively with universities, Institutes of Further Education, colleges and industry. • IF4c: Develop knowledge management capability and implementation processes.

The amendments to the draft WSSP were reviewed in order to determine the extent to which they are significant and therefore require further assessment as part of the AA process. In this instance, the amendments made to the draft WSSP are not substantive. No additional Aims or Strategies have been included within the final WSSP and changes principally comprise minor amendments to wording that either improved their performance with respect to European sites, or which are not considered material to the outcome of the assessment contained in the NIS. In consequence, further assessment is not considered to be necessary.

5.5 Concluding Statement

Based on the assessment of the draft WSSP and the subsequent assessment of the final WSSP, it is considered that the WSSP will have no adverse effects on any European sites, alone or 'in combination' with other plans and programmes.

This conclusion does not remove the need for screening any other plans, strategies or projects, or permissions associated with, or arising from the Plan. Acceptance that the WSSP is consistent, so far as can be ascertained, with the Habitats Directive and Regulations does not guarantee that any Tier 2 plans or strategies or Tier 3 projects derived from the Plan will also be found consistent when taken forward. The WSSP will be subject to monitoring and performance testing, and a formal five-year review cycle, which will allow for strategy adjustments to ensure (*inter alia*) the long-term compliance with the Habitats Directive and Regulations.

Appendix A

Draft WSSP Strategic Objectives, Aims and Strategies

Table A.1 Draft WSSP Strategies

Aim	Strategy
Meet Customer Expectations	
Aim CE1: Establish both Customer Trust and a Reputation for Excellent Service.	<ul style="list-style-type: none"> • CE1a: Create and operate a lean and effective Customer Operation. • CE1b: Build and maintain accurate customer databases. • CE1c: Establish sustainable customer revenue. • CE1d: Establish effective communication channels with customers. • CE1e: Establish national customer service standards and robust customer protection measures. • CE1f: Fully support the work of the Public Water Forum.
Ensure a Safe and Reliable Water Supply	
Aim WS1: Manage the quality of drinking water from source to tap to protect human health.	<ul style="list-style-type: none"> • WS1a: Prepare a National Water Resources Plan and implement on a phased basis. • WS1b: Prepare and implement Drinking Water Safety Plans for all Water Supply Zones. • WS1c: Implement Standard Operational Procedures for all water treatment plants, water storage facilities and distribution networks. • WS1d: Develop and Implement Capital Investment Plans to improve Drinking Water Quality. • WS1e: Prepare and implement a “Lead Compliance Strategy”. • WS1f: Prepare and implement strategies to manage other quality issues in water supplies.
Aim WS 2: Manage the availability and reliability of water supply now and into the future.	<ul style="list-style-type: none"> • WS2a: Implement risk assessments for all water supply areas in terms of short, medium and long term risks to customer supply. • WS2b: Manage existing water resources and plan for new resources taking a regional view of needs and having regard to the objectives of the Water Framework Directive (WFD). • WS2c: Develop long-term sustainable water sources with resilience to climate change. • WS2d: Develop methodologies to build strategic resilience and network connectivity into resource planning. • WS2e: Manage future regulatory requirements for abstraction licencing, headroom in treatment facilities and population growth. • WS2f: Match water abstraction to availability and quality using surface water and groundwater sources. This is known as Conjunctive Use. • WS2g: Prepare Regional Water Conservation Strategies and implement on a phased basis.
Aim WS3: Manage the affordability of water supplies.	<ul style="list-style-type: none"> • WS3a: Adopt an asset management based approach to capital maintenance and capital investment. • WS3b: Optimise the unit cost of water supply through proper water resource and treatment planning. • WS3c: Prepare and implement water conservation strategies including demand management. • WS3d: Optimise capital and operational investments in water supply.

Aim	Strategy
Provide Effective Management of Wastewater	
<p>Aim WW1: Manage the operation of wastewater facilities in a manner that protects environmental quality.</p>	<ul style="list-style-type: none"> • WW1a: Prepare and implement a Wastewater Compliance Strategy. • WW1b: Produce appropriate guidance documentation and Standard Operating Procedures. • WW1c: Develop and implement Capital Investment Plans on a prioritised basis to progressively achieve compliance. • WW1d: Manage the wider potential environmental impacts associated with the construction and operation of wastewater systems.
<p>Aim WW2: Manage the availability and resilience of wastewater services now and into the future.</p>	<ul style="list-style-type: none"> • WW2a: Implement risk assessments for all agglomerations in terms of short, medium and long term risks to customer service. • WW2b: Manage existing wastewater assets and plan for new assets based on short, medium and long term sustainability. • WW2c: Identify properties at risk of flooding from combined sewers, and implement measures to reduce risk on a phased basis. • WW2d: Identify and manage critical wastewater assets.
<p>Aim WW3: Manage the Affordability and Reliability of Wastewater Services.</p>	<ul style="list-style-type: none"> • WW3a: Adopt an asset management based approach to capital maintenance and capital investment. • WW3b: Develop and implement strategies and standards to minimise the unit costs of wastewater treatment including standardising treatment processes. • WW3c: Optimise energy consumption in wastewater treatment plants and collection systems. • WW3d: Ensure adequate governance and control of discharges to the sewer network, having regard for best practice and value. • WW3e: Engage with regulators and stakeholders. • WW3f: Optimise capital and operational investments in wastewater services.
Protect and Enhance the Environment	
<p>Aim EN1: Ensure that Irish Water services are delivered in a sustainable manner which contributes to the protection of the environment.</p>	<ul style="list-style-type: none"> • EN1a: Implement a Sustainability Policy and Sustainability Framework. • EN1b: Prepare and implement a Sustainable Energy Strategy. • EN1c: Prepare and implement a Climate Change Adaptation and Mitigation Strategy. • EN1d: Adopt a Green Procurement Approach and drive efficient use of all our resources. • EN1e: Adhere to environmental and planning legislation when planning and developing water services assets.
<p>Aim EN2: Operate our water services infrastructure to support the achievement of water body objectives under the Water Framework Directive.</p>	<ul style="list-style-type: none"> • EN2a: Work effectively with other stakeholders to support a catchment based approach to water management. • EN2b: Manage the operation of our water and wastewater infrastructure towards the achievement of water body objectives.
<p>Aim EN3: Manage all our Residual Waste in a Sustainable Manner.</p>	<ul style="list-style-type: none"> • EN3a: Develop and implement a Corporate Waste Management Strategy. • EN3b: Develop and implement a National Wastewater Sludge Strategy. • EN3c: Develop and implement a National Water Sludge Strategy.
Support Social and Economic Growth	
<p>Aim SG1: Support National, Regional and Local Economic and Spatial Planning Policy.</p>	<ul style="list-style-type: none"> • SG1a: Work with national, regional and local bodies and potential customers to anticipate and plan water services for growth in line with the statutory planning process.
<p>Aim SG2: Facilitate growth in line with national and regional economic and spatial planning policy.</p>	<ul style="list-style-type: none"> • SG2a: Maximise capacity of existing assets through effective asset management and optimised operation. • SG2b: Plan water service infrastructure at national, regional and river basin level. • SG2c: Invest in the development of strategic networks and treatment works.

Aim	Strategy
	<ul style="list-style-type: none"> • SG2d: Maintain appropriate headroom in strategic water services infrastructure. • SG2e: Provide a high quality customer service for new customers.
<p>Aim SG3: Ensure that water services are provided in a timely and cost effective manner.</p>	<ul style="list-style-type: none"> • SG3a: Plan for water services infrastructure development to meet projected demand facilitating delivery on a phased basis. • SG3b: Balance investment for growth in demand with affordability. • SG3c: Operate an equitable New Connections Charging Policy that ensures efficient service provision to new customers with full cost recovery on a least cost basis.
Invest in Our Future	
<p>Aim IF1: Asset Management - Manage our assets and investments in accordance with best practice asset management principles to deliver a high quality secure and sustainable service at lowest cost.</p>	<ul style="list-style-type: none"> • IF1a: Implement asset management systems including comprehensive asset data collection and modelling tools. • IF2b: Develop long term asset strategies and implementation plans (Tier 2 Plans). • IF2c: Development of initiatives such as asset standards and improved supply chain management.
<p>Aim IF2: Balanced Sustainable Investment - Invest in our assets while maintaining a sustainable balance between the interests of our customers, the environment and the need to support the economic development and growth of the country.</p>	<ul style="list-style-type: none"> • IF2a: Engage with our customers, including households, commercial and industrial customers. • IF2b: Engage collaboratively with key stakeholders including CER, EPA, HSE, DECLG, regional and local authorities. • IF2c: Apply clear and transparent investment prioritisation criteria.
<p>Aim IF3 : Sustainable Funding Model - Establish a sustainable funding model to ensure that Irish Water can deliver the required capital investment in order to maintain critical assets and achieve the required outcomes for our customers, the environment and the national economy.</p>	<ul style="list-style-type: none"> • IF3a: Transform the water industry in Ireland to an efficient water utility model within a regulated framework. • IF3b: Work with regulators to achieve optimum balance of affordability and service standards taking into account regulatory requirements. • IF3c: Deliver on Irish Water's commitments to raise public awareness of the value of water and achievements delivered.
<p>Aim IF4: Research and Innovation - Promote research and proven, innovative technical solutions.</p>	<ul style="list-style-type: none"> • IF4a: Actively pursue research and development in water services and track opportunities to develop and adopt new technologies. • IF4b: Engage effectively with universities, Institutes of Further Education, colleges and industry. • IF4c: Develop knowledge management capability and implementation processes.

Appendix B

Natura Impact Statement Consultation Response Summary

Public consultation on the Natura Impact Statement ran from 19th February 2015 to the 17th April 2015. The tables below contain the comments received and responses and revisions as appropriate.

Submission No.1: Environmental Protection Agency

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>1. Integration of SEA and AA in the WSSP</p> <p>It is not clear how the SEA and AA processes have influenced and informed the preparation of the WSSP. A description and schematic should be included in the Executive Summary and the WSSP describing and showing the link between the SEA and AA processes and the WSSP preparation. These should indicate how and where the SEA has informed the WSSP. In the SEA Environmental Report, Figure 1.4 <i>Linking the SEA and the WSSP</i> shows the integration of the processes and could be extended to include the Appropriate Assessment process and included in the WSSP. The integration of the WSSP and SEA process should reflect the overall objective of the SEA Directive “to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes”.</p>	<p>Comment noted. The SEA Environmental Report and Natura Impact Statement have identified a number of measures to avoid or minimise potential negative effects and to enhance positive effects arising from the implementation of the WSSP (summarised in Section 4.5 of the Environmental Report and Section 5.1 of the Natura Impact Statement). Those measures that relate to the WSSP itself (as opposed to Tier 2 plans and Tier 3 projects) have been considered by Irish Water in preparing the final WSSP. The SEA Statement sets out explicitly how these measures have been incorporated into the final Plan and so the extent to which they have influenced the final Plan.</p> <p>Page 6 of the WSSP sets out that the Plan has been subject to SEA and AA and the relationship between the development of WSSP, SEA and AA.</p>

Submission No.2: Department of Communications, Energy and Natural Resources (Inland Fisheries Ireland)

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Under section 7(3) of the IFI Act it is stated that <i>without prejudice to subsection (1), IFI shall in the performance of its functions have regard to:</i></p> <p><i>(g) the requirements of the European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997) and the need for the sustainable development of the inland fisheries resource (including the conservation of fish and other species of fauna and flora habitats and the biodiversity of inland water ecosystems),</i></p> <p><i>(h) as far as possible, ensure that its activities are carried out so as to protect the national heritage (within the meaning of the Heritage Act 1995).</i></p>	<p>Comment noted. Irish Water recognises the importance of inland and marine fisheries and the need to consider the effects of its activities on these resources.</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Article 5 of the 2009 Surface Water Regulations requires that a public authority, in performance of its functions, shall not undertake those functions in a manner that knowingly causes or allows deterioration in the chemical or ecological status of a body of surface water. Also article 28(2) of the said Regulations states that a surface water body whose status is determined to be less than good shall be restored to at least good status not later than the end of 2015.</p> <p>Inland Fisheries Ireland is also the competent authority for fish and has significant responsibilities and powers under S.I. 477 of 2011 whereby Ireland transposed into Irish law its responsibilities under the European Communities (Birds and Natural Habitats) regulations – the habitats directive. Furthermore the Eel is now endangered and additional protection measures have also been introduced in that regard and it is incumbent on Ireland to ensure that the eel and its range and habitat is properly protected.</p> <p>Please note that IFI are in broad agreement with the content and aims of your Water Service Strategic Plan</p> <p>It is also important to note that while many rivers are not designated under the Habitats Directive, they hold species that are designated under that directive. Atlantic salmon, for example, are listed as an Annex II Species under the European Habitats Directive.</p> <p>It is respectfully highlighted that various fish species receive protection under Irish National Fisheries Legislation (which can be found referenced in our guidelines document).</p> <p>Regard should be had to the need for the sustainable development of the inland and marine fisheries resource when undertaking any works on any surface water (whether subject to formal designation or not).</p>	

Submission No.3: Department of Arts, Heritage and the Gaeltacht

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>General Observations on the Environmental Report and Natura Impact Statement:</p> <p>Baseline data and information on the receiving environment:</p> <p>The most recent Article 17 Report on the status of habitats and species listed on the Habitats Directive has not been considered in the Environmental Report or in the Natura Impact Statement, although this has been available since September 2013 and has been referred to in previous submissions from this Department.</p>	<p>Comment noted. References to the Article 12 / 17 reports have been included in the revised Statement. In addition, habitats and species identified in the Article 17 and Article 12 reports which are considered potentially sensitive to Irish Waters activities have been identified and are presented in Appendices D & E respectively.</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Appropriate assessments, and screenings, are to be undertaken in view of best scientific knowledge (Part 5, SI 477 of 2011). There does not appear to be any consideration of the effects on the status of bird species or the current state of the receiving environment in relation to bird species. The Department's previous observations of June 2014 provided information on the availability of the Article 17 Report and the recent Birds' Directive Article 12 Report, but these do not seem to have been taken into account.</p>	<p>The Article 17 report provides useful information on the status of habitats and species nationally; the WSSP contains policies and measures that will operate nationally to ensure that European sites and interest features are protected. However, the range of potential impacts arising from Irish Water's activities is so broad (relating to capital and operational works) that any assessment can only be undertaken at a very high level. Hence, the WSSP and the Natura Impact Statement focus on the development of good policy that will ensure that adverse effects do not occur as a result of any activities that may ultimately result from the plan. It should also be noted that the assessment is of the WSSP and its likely outcomes (taking into account cross-cutting protective measures and strategies), not individual consents etc.</p>
<p>Integration of ecological issues between the Environmental Report and the NIS</p> <p>The Environmental Report and the screening for Appropriate Assessment set out a range of impacts that may arise as a result of the Plan but these are not carried through and resolved in the Natura Impact Statement. The Department acknowledges the commitments made to protecting the environment within the Strategy and the challenges in undertaking an appropriate assessment of a plan of this nature. While it may not yet be known where future projects to be developed under the Plan will arise, there is existing knowledge about the current infrastructure, discharges, their location and the effects they may or currently have on European sites and this should be used to inform this assessment and to ensure all necessary mitigation at Tier 1 and Tier 2 etc is developed and integrated into the Plan.</p> <p>Consideration of how the Plan will affect the obligation to maintain <i>and restore</i> habitats and species to favourable conservation condition needs to be included within the NIS. The development of strategic Plan-level mitigation (e.g. by helping to inform and broaden the scope of the R&D Strategy), rather than project-level mitigation, should help projects to move through the required consent processes in a more timely manner. A number of the proposed Tier 2 plans and strategies should serve as useful mitigation in this regard but a more systematic linkage of impacts and effects that may arise to the Tier 1 and Tier 2 mitigation would support the conclusion of the assessment more robustly. This should also then serve to inform the necessary targets and indicators of the Tier 1 Strategy.</p>	<p>The SEA Environmental Report and the Appropriate Assessment Screening set out a range of 'conceivable' impacts that could occur as a result of the normal operations and capital works undertaken by a water company and this has been updated in the NIS. However, for the reasons set out in the Natura Impact Statement it is considered that the exhaustive documentation and assessment of all of these conceivable impacts is neither possible or appropriate for the plan being assessed.</p> <p>The assessment of potential impacts on European protected sites from all current water services infrastructure and operations would be a substantial undertaking.</p> <p>The WSSP does not advocate a 'business as usual' approach and recognises the detailed assessments that will be required of Irish Water's assets and their performance. Currently, the WSSP is considered to contain sufficient protective measures and policies to ensure that there will not be adverse effects as a result of its implementation – this includes policies directly related to legal compliance and the safeguarding of European sites during all Irish Water activities – and the specific asset and impact assessments proposed by the Department are more appropriate to the Tier 2 plans that the Strategy promotes, rather than the high-level Strategy itself.</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Relevant Ecological Context:</p> <p>The following ecological context, amongst other considerations raised in previous observations provided by this Department, should be used to inform the Water Services Strategic Plan, its targets, indicators, the associated assessments and subsequent Tier 2 Plans; these observations are provided particularly in the context of issues to be considered in relation to abstraction.</p> <p>Under the EU Habitats Directive, 45 Annex I habitats have been identified as water-dependent for the purposes of identifying Special Areas of Conservation (SACs) on the Water Framework Directive Register of Protected Areas.</p> <p>1. 6 of these are in freshwater rivers and/or lakes:</p> <p>a. All river and lake habitats have the potential to be impacted by surface water abstractions and have some groundwater dependence.</p> <p>b. Hard-water lakes (3140) and calcareous sub-types of river habitat (3260) are likely to be most sensitive to groundwater abstractions.</p> <p>c. Sensitivity to groundwater abstraction will be particularly case- and location-specific, owing to the potential for an abstraction to 'tap-into' a particular flow path that drives the ecology of the lake/river habitat.</p> <p>2. 19 of the water-dependent habitats are Groundwater Dependent Terrestrial Ecosystems (GWDTE):</p> <p>a. The most sensitive to groundwater abstraction will be *petrifying springs (7220), transition mires (7140), alkaline fens (7230) and *Cladium fens (7210).</p> <p>b. The coastal habitats *machair (21A0), dune slacks (2190) and dunes with Salix repens (2170) are also very sensitive to groundwater abstractions, such as for golf-course irrigation or caravan parks. Saline intrusion is also a consideration here.</p> <p>c. The sensitivity of all GWDTE to groundwater abstraction is very case- and location- specific.</p> <p>3. Under the EU Habitats Directive, 22 Annex II species have been identified as water-dependent for the purposes of identifying SACs on the Water Framework Directive Register of Protected Areas.</p> <p>a. 10 of these are found in freshwater rivers and/or lakes.</p> <p>b. Of these 10, the freshwater pearl mussel is the most sensitive to surface water abstractions (from upstream lakes and/or occupied rivers). Abstractions at low flows are the greatest concern, owing to risks of exposure of mussels, slower flow, increased sedimentation and macrophyte/macroalgal growth. Relatively</p>	<p>Comment noted. This information has been used to inform the final WSSP and will be referenced as appropriate in undertaking any future assessments of Tier 2 plans.</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>small abstractions at a sensitive location or acting cumulatively/in-combination (e.g. with land drainage, or bank erosion) could have significant negative impacts.</p> <p>c. <i>Najas flexilis</i> is sensitive to lake abstractions, given that it occupies the base of the euphotic zone.</p> <p>d. There is potential for the freshwater pearl mussel to be impacted by groundwater abstractions, as upwelling by groundwater in the river substratum contributes to water circulation and oxygenation, however the risks are presumed to be lower owing to the predominance of surface water abstractions in pearl mussel catchments. The aquifers in such areas are usually poorly productive, so abstractions are typically from rivers and lakes. The Nore may be an exception to this generalisation, however.</p> <p>e. Seven of the water-dependent species are largely ground-water dependent, found in GWDTE and sensitive to groundwater abstractions.</p> <p>f. Of these 7, <i>Vertigo geyeri</i>, <i>Saxifraga hirculus</i>, <i>Petalophyllum ralfsii</i> and <i>Drepanocladus vernicosus</i> are likely to be the most sensitive.</p> <p>4. While the selection of water-dependent Special Protection Areas (SPAs) for the Water Framework Directive Register of Protected Areas was never finalised, the primary consideration in relation to bird species protected under the EU Birds Directive is to avoid deterioration of wetlands and the birds that use them.</p> <p>5. It is also important to ensure that potentially significant disturbance of bird species by activities related to abstractions and impoundments should be avoided.</p> <p>Other relevant work includes that undertaken for the Western River Basin District on water dependent habitats and species (http://www.wfdireland.net/docs/27_HighStatusSites/) as well as work recently funded by the EPA Strive programme on GWDTE (ground-water dependent terrestrial ecosystems) and high status sites.</p>	
<p>Terminology, tests and conclusion of screening/AA.</p> <p>It is noted that the wording of the conclusion to the Natura Impact Statement is that it is considered that the WSSP will have “<i>no significant adverse effects on any European site, alone or “in combination” with any other plans and programmes</i>”. The language to determine and conclude an appropriate assessment is whether the effects of a plan will have “<i>an adverse effect on integrity of the site</i>”, whereas, at screening, consideration is given to whether <i>significant</i> effects will or may arise. The language used in the NIS combines the terminology of the different stages of the assessment, which causes confusion as to the question being answered and should be clarified. Please also note that the terminology “Habitats Directive</p>	<p>Agreed. An effect can only be adverse if it is significant, so the phrase has been amended to ‘no significant and adverse effects’ (since an effect can be significant but not adverse).</p> <p>With regard to the Screening Report recommendation “...the screening should be refined further to determine the relevant European sites that can be screened out based on the absence of particular habitats or species”, we do not think this would be appropriate for the reasons set out in Section 2.4.3 of the Natura Impact Statement. Irish Water’s future works and operations</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Assessment" (HDA) is not typically used in the Republic of Ireland and is not the terminology used in the relevant Regulations.</p> <p>Also, the conclusion of the screening report does not appear to have been resolved in the Natura Impact Statement, which is pertinent to the comments above on the consideration of impacts within the NIS. The Screening Report Section 2.9 states "<i>it is recommended that the screening should be refined further to determine the relevant European sites that can be screened out based on the absence of particular habitats or species</i>". This approach does not appear to have been applied within the Natura Impact Statement. For instance, using a mapping comparison of existing assets (including those on the Remedial List) to European sites would have helped to elucidate which habitats and species, and sites, may be particularly at risk, and then could have been used to inform the development of plan-level mitigation that may be required and to inform any prioritisation exercise that will be undertaken.</p>	<p>could theoretically result in effects on any European site and so trying 'screen out' European sites at this Tier 1 plan stage would add little value.</p> <p>Irish Water also has an imperfect knowledge of the assets being adopted, making cross-cutting policies more appropriate than trying to identify specific measures for specific sites. The specific asset and impact assessment proposed by the Department is more appropriate to one of the Tier 2 plans that the WSSP promotes, rather than the high level Plan.</p>
<p>Use of guidance from other jurisdictions:</p> <p>The Department notes that guidance from other jurisdictions has been used in the preparation of the NIS. Such guidance may not always be consistent with the requirements of the national legislation under which this appropriate assessment is to be concluded.</p>	<p>Comment noted. The assessment has been undertaken in accordance with European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).</p>
<p>Specific points concerning statements/figures in the documentation:</p> <p>- Natura Impact Statement:</p> <p>Footnote 8 states "<i>In some (rare) instances Government policy may extend the provisions that are strictly applicable to European sites (as defined by the European Communities (Birds and Natural Habitats Regulations) 2011 (as amended)) to undesignated sites (typically those in the early stages of the designation process)</i>". The provisions extend to all sites from their time of notification.</p> <p>Footnote 10 states that "<i>it should be noted that Irish case suggests that avoidance or mitigation measures can (and should) be considered at the screening stage</i>". This statement appears to go further than the case law referenced, as mitigation is not always an intrinsic part of the work to be carried out (which is the wording of the case-law quoted). Irish Water's attention is also brought to the Waddenzee judgment of the European Court of Justice (C-127/02) which states that the triggering of an appropriate assessment "follows from the mere probability that such an [significant] effect attaches to that plan or project" and that in view of the precautionary principle "in case of doubt as to the absence of significant effects such an [Article 6(3)] assessment must be carried out."</p>	<p>Comments noted.</p> <p>Regarding footnote 8 of the Natura Impact Statement, we accept any clarifications provided on this point, although the footnote is correct: the Government may extend the provisions to undesignated sites as a matter of policy, ahead of the notification process.</p> <p>Comment noted. The footnote has been deleted.</p>

Submission No.4: Northern and Western Regional Assembly

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>The conclusions of the Natura Impact Statement for the WSSP recommend amendments to the draft strategy, suggesting that their inclusion will result in the WSSP having no significant adverse effects on any European sites, etc. However they haven't been included in the document within the identified sections. It is important to ensure that all mitigation proposed through Appropriate Assessment (AA) and Strategic Environmental Assessment (SEA) processes are incorporated into the final plan.</p>	<p>Comment noted. The recommendations of the AA have been taken into account in developing the final WSSP. Further detail is provided in Section 5.4 of this report.</p>

Submission No.5: Southern Regional Assembly

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>The Regional Assembly notes that the conclusions from the Appropriate Assessment are that:-</p> <ul style="list-style-type: none"> • 49 of the 68 strategies contained within the draft WSSP would have 'no effect' on any European sites, • 12 strategies cannot be assessed at the level of the WSSP but that screening for AA should be undertaken for such lower level plans, strategies and projects derived from the WSSP • 7 strategies within the WSSP will have no significant effects and area likely to have positive effects on European sites. 	

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>Overall, the Appropriate Assessment prepared is considered to address the requirements of the Habitats Directive to assess potential impacts of the WSSP on the Natura 2000 network of European sites. However, the following observations are set out below in relation to specific sections of the report:-</p> <ul style="list-style-type: none"> The Executive Summary states at page iv that 'the WSP is not spatially specific' whereas it is considered that the WSSP <i>is</i> a spatially specific Plan for the Irish State. In this regard, it is noted at Section 2.4.2 on page 8 that the document correctly identifies the need to assess Transboundary Effects for the adjoining territory of Northern Ireland, where the AA Screening identifies 57 SACs (Special Areas of Conservation) and 16 SPAs (Special Protection Areas) in Northern Ireland that have been assessed. Table 2.5 Plans and Projects likely to cause In-Combination Effects (Page 18 of the Outline AA Screening report) should also include the Northern Ireland Regional Development Strategy 2035 and the Northern Ireland Water Resources Management Plan. <p>Finally, in both the Glossary and Appendices there are out of date references to the former Regional Authorities which were abolished in June 2014, and to various Local Authorities which have merged as of this same date. It would be desirable if the final version of the Plan made the appropriate updates to reflect the current make-up of the local government sector following the enactment of the Local Government reform Act, 2014.</p>	<p>Comment noted. We have considered re-worded the 'spatially specific' term as it is not as clear as it could be. The only spatial dimension to the WSSP is that it is for the Irish State. However, given that this is the highest possible dimension for a plan such as the WSSP, to some extent, the statement is of limited relevance to the specifics of the assessment.</p> <p>Comment noted. It is not intended to update the Screening Report as this document is superseded by the NIS.</p> <p>The Glossary has been updated to reflect the recent changes. The Appendices refer to lists from the EPA and have been retained for clarity.</p>

Submission No.6: Sustainable Water Network (SWAN)

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>As with the SEA for the Draft WSSP, and as acknowledged in the NIS, the high level of the plan makes it hard to pinpoint specific impacts on individual Natura 2000 sites and their Annex I habitats and Annex I and Annex II species. However, in our opinion even at this early stage there are certain types of plans and projects that could potentially have a significant negative effect on a Natura 2000 site. For example:</p>	<p>Comment noted. Irish Water welcomes SWAN's endorsement of the findings of the Natura Impact Statement.</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<ul style="list-style-type: none"> • Potential negative impacts to a Natura 2000 site could occur due to the direct loss of habitat and degradation of habitats due to the construction, upgrading or repair of water services related infrastructure. At a species level species listed under the Habitats and Birds Directives may be disturbed and or displaced during the construction, operational and decommissioning stage of a project; • The abstraction and storage of raw surface water or groundwater: Abstraction could stress water bodies and changing water levels may have a negative impact on biodiversity. • The storage and distribution of treated water; • Management, reuse and disposal of residual wastes and sludges. <p>We would therefore fully agree with the conclusion that it will remain necessary to undertake Appropriate Assessment on the lower-tier Implementation Plans and projects (Tier 2 and Tier 3, respectively) as these are developed. SWAN would also be broadly in support of the conclusion that the development of the WSSP, and the strategic management of water resources and wastewater provision by a national body, will help improve the condition of many European sites and support the achievement and maintenance of favourable conservation status across the Natura 2000 network. Of course the effectiveness of this will depend on the prioritisation of measures for these sites (See Section 5).</p>	

Submission No.7: Northern Ireland Environment Agency

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>We are broadly content with the Natural Impact Statement as it relates to Northern Ireland. We note that the statement did not identify any adverse effects on any European Site in Northern Ireland.</p> <p>We welcome the inclusion of overarching environmental protection strategies and supporting text in the WSSP. We welcome the additional measures to avoid or minimise potential negative effects and to enhance</p>	<p>Comments noted and welcomed.</p> <p>The plan will include a statement within the Protect and Enhance the Environment strategic objective in relation to international river basins and transboundary effects. Any future SEA and Appropriate Assessment in</p>

Relevant Submission Text	Response and Updates to SEA and NIS arising (if any)
<p>positive effects arising from the implementation of the WSSP that were identified in the SEA Environmental Report. We consider that these mitigation and enhancement measures are also relevant to subsequent proposals and projects that may have transboundary interaction with Northern Ireland.</p> <p>We would welcome the inclusion of a statement in the WSSP indicating that relevant proposals and projects should also have regard to the mitigation and enhancement measures in the WSSP in relation to the environment in Northern Ireland in order to avoid or minimise transboundary negative effects and to enhance positive effects.</p> <p>We note that appropriate assessments remain necessary on the lower-tier plans, strategies and projects derived from the WSSP. We consider that these assessments should also consider potential effects on European Sites in Northern Ireland.</p>	<p>respect of Tier 2 plans and Appropriate Assessment in relation to Tier 3 projects will, where appropriate, consider potential transboundary effects on European designated sites in Northern Ireland.</p>

Appendix C

Appropriate Assessment Outline Screening Report

APPROPRIATE ASSESSMENT OUTLINE SCREENING REPORT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

OF THE

Water Services Strategic Plan

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

for: **Irish Water,**
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by: **AOS Planning**
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JUNE 2014

Table of Contents

Section 1	Introduction and Background	1
1.1	Background.....	1
1.2	Legislative Context	1
1.3	Stages of Appropriate Assessment.....	2
Section 2	Stage 1 Screening	3
2.1	Description of the Water Services Strategic Plan.....	3
2.2	Content and Context of the WSSP	3
2.3	Elements of the WSSP with Potential to Cause Adverse Impacts on the Natura 2000 Network.....	7
2.4	Natura 2000 Network	8
2.5	Assessment Criteria	14
2.6	Is the Plan Necessary to the Management of European Sites?.....	17
2.7	European Sites Potentially Affected by the Plan	17
2.8	Other Plans and Programmes.....	18
2.9	Conclusions.....	22

List of Tables

Table 2.1:	List of Habitats for which SACs are designated.....	9
Table 2.2:	List of Annex II species for which SACs are designated in ROI and NI.....	10
Table 2.3:	List of Special Conservation Interests (SCIs) for which SPAs are designated in the ROI and NI. Wetlands are also listed as an SCI of some SPAs in the ROI.....	11
Table 2.4:	Potential impacts arising from activities and projects likely to be undertaken in order to achieve the aims of the WSSP.....	16
Table 2.5:	Plans and Projects Likely to Cause In-Combination Effects.....	18

List of Figures

Figure 2.1:	Planning and Environmental Assessment Hierarchy for Water Services	5
Figure 2.2:	Map showing the distribution and extent of designated European sites on the island of Ireland overlain on the Water Framework Directive River Basin Districts.....	13

List of Appendices

Appendix I:	List of all European sites under consideration during the AA screening process
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Section 1 Introduction and Background

1.1 Background

AOS Planning has been appointed by Irish Water to provide an Outline Appropriate Assessment (AA) Screening Report in relation to the emerging Water Services Strategic Plan (WSSP) in accordance with the requirements of Article 6 of the EU Habitats Directive¹. This report is divided into two sections as follows:

- Section 1 Introduction and Background
- Section 2 Stage 1 Screening

1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These include candidate Special Areas of Conservation (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (Directive 2009/147/EC - codified version of Directive 79/409/EEC as amended), hereafter referred to as European sites.

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

“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public

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

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

These requirements are implemented in the Republic of Ireland (ROI) by the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and

¹ Directive 92/43/EEC

Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the Court of Justice of the European Union (CJEU) judgments.

1.3 Stages of Appropriate Assessment

This Draft Outline AA Screening Report has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities.* Department of the Environment, Heritage and Local Government, 2010.
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* European Commission Environment DG, 2002.
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC.* European Commission, 2000

AA comprises up to four stages:

Stage One: Screening

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

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage Three: Assessment of Alternative Solutions

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

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

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

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

Section 2 Stage 1 Screening

2.1 Description of the Water Services Strategic Plan

2.1.1 Introduction

Irish Water is responsible for the operation of public water and wastewater services under the Water Services (No. 2) Act 2013. Irish Water is bringing the water and wastewater services of the 34 Local Authorities together under one national water utility that will be responsible for the management of national water assets, maintenance of the water system, managing capital projects as well as customer care and billing. In addition to this, Irish Water will also make capital and operational investment decisions regarding the country's national water infrastructure.

As part of this process, Irish Water is currently preparing a Water Services Strategic Plan (WSSP) which will set out Irish Water's high level strategies for providing water services to their customers over a 25 year horizon and how they will meet their environmental compliance commitments. The WSSP for Irish Water is intended to outline the strategic direction for Irish Water over the short, medium and long-term time frames up to 2040. Irish Water will identify what areas require focus and development in order to meet key objectives and mandate set out by government. The WSSP will be a strategic framework which will identify and prioritise the key objectives required to ensure the public water system can meet the challenges of the future. This framework will also allow future capital investment plans to be developed by Irish Water and approved by the Economic Regulator.

2.1.2 The WSSP Vision

The current version of the Vision of the WSSP is:

"We value water as a precious natural resource on which the quality of life depends."

"Through responsible stewardship, efficient management and strong partnerships, Ireland has a world-class water infrastructure that ensures secure and sustainable water services, essential for our health, our communities, the economy and the environment."

The over-riding objective of the WSSP is to realise this vision, by meeting the service expectations of their customers at the lowest achievable cost.

2.2 Content and Context of the WSSP

2.2.1 Content of the WSSP

As per the requirements of Article 33 (4) of the Water Services (No. 2) Act 2013, the WSSP will state the objectives of Irish Water in relation to the provision by Irish Water of water services and the means by which Irish Water proposes to achieve those objectives. The objectives will include those in relation to:

- a) drinking water quality,
- b) the prevention or abatement of risks to human health or the environment relating to the provision of water services,
- c) the existing and projected demand for water services,
- d) existing and planned arrangements for the provision of water services by Irish Water,
- e) existing and reasonably foreseeable deficiencies in the provision of water services by Irish Water,
- f) existing and planned water conservation measures,
- g) the management of the property of Irish Water.

For additional information on the likely content of the WSSP please refer to Appendix I of the Draft SEA Scoping Document. It is foreseen that the outcome of the AA process will contribute to the final content of the WSSP.

2.2.2 Context for the WSSP

The WSSP is set in the overall context of water services planning, with related plans, projects and activities and their associated SEA, AA, Environmental Impact Assessment (EIA) and licensing as required under current legislation as illustrated in the schematic presented as Figure 2.1 below. The WSSP will not generally refer to specific water services projects.

The WSSP is at the highest tier (Tier I) of water services planning. The WSSP will set out Irish Water's high level strategies for providing water services to their customers over a 25 year horizon and how they will meet their environmental compliance commitments. The implementation and operation of the WSSP will be reviewed not later than 5 years after approval and thereafter as required by statute.

The implementation of the strategies identified in the WSSP will be detailed in a number of Implementation Plans (Tier II) which will be prepared by Irish Water following the approval of the WSSP by the Minister of the Environment Community and Local Government. These Implementation Plans: will include, for example, a National Water Resources Management Plan, a National Sludge Management Plan, Water Conservation Plans, Water Safety Plans etc. (note: this list is not exhaustive and titles of plans may change); will be reviewed on a cyclical basis; and will be subject to environmental assessment as appropriate. The requirement to carry out an SEA/AA on these individual plans will be considered at the commencement of preparing each plan and subject to the requirements of relevant legislation.

Irish Water has responsibility for providing a clean safe water supply to current and future customers connected to the network. The main activities associated with providing a water supply include the following:

- (Raw) Water abstraction (from surface or ground water);
- Treatment of raw water to a potable water standard (the level of treatment required will depend on the quality of raw water abstracted);
- Storage of raw and treated water;
- Distribute treated water to customers through a pipe network;
- Construction, operation, maintenance and management of the above; and
- Metering, billing and customer services.

Irish Water is also responsible for collecting, treating and safely disposing of wastewater from current and future customers connected to the public wastewater network. The main activities associated with providing effective management of wastewater include the following:

- Collection of wastewater from customers connected to the public wastewater sewer network;
- Collection and treatment of surface water where surface water drains are currently connected to the public sewer network;
- Treatment of wastewater to an acceptable standard set by legislation (the level of treatment required will depend on the type of receiving water and its assimilative capacity);
- Discharging treated wastewater to surface or groundwater under licence/certification by the EPA;
- Construction, operation, maintenance and management of the above; and
- Metering billing and customer services in relation to the above.

The high level strategies to be identified in the WSSP will focus on how Irish Water will plan for the above activities in order to provide water services to customers in a cost effective manner over a 25 year horizon and how Irish Water will meet environmental compliance commitments related to these

activities. It is not envisaged that geographical context will be attributed to the strategies identified in the WSSP. The subsequent Implementation Plans referred to above and in Figure 2.1 will detail how these strategies will be carried out at a regional and county level. The lists of activities to be carried out by IW are not exhaustive but identify the main activities that may have the potential to impact on the Natura 2000 network.

At Tier III of the hierarchy, the projects and activities required to implement the strategies outlined in the WSSP and detailed in the Implementation Plans will be identified and developed and will be subject to all appropriate EIA, AA, planning, licensing and permitting processes.

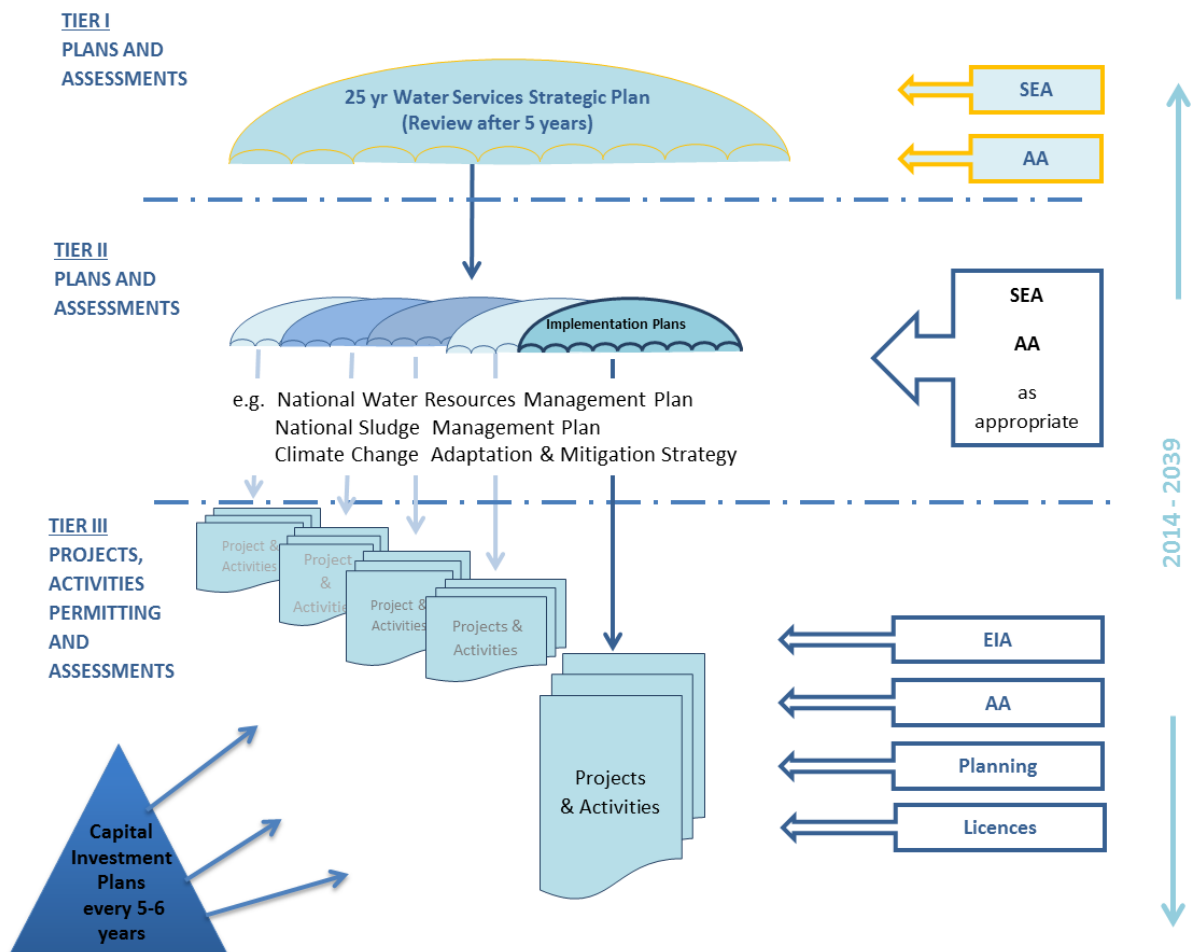


Figure 2.1: Planning and Environmental Assessment Hierarchy for Water Services

2.2.3 Relationship with other relevant Plans and Programmes

The WSSP is set in a water services planning context of related plans, projects and activities and their associated SEA, AA and Environmental Impact Assessment (EIA) requirements as illustrated in Figure 2.1.

Further examination of the WSSP by the AA will take account of Irish Water's obligation to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management led by the Water Framework Directive and implemented by the River Basin Management Plans.

The following is a preliminary list of other plans, programmes and projects which relate to a range of sectors (e.g., water management, land use, energy) at a range of levels (e.g., national, regional, county, local) that are already subject to more specific higher and lower tier AA and that could potentially interact with the WSSP:

European	National / Regional	Sub-Regional
Water Framework Directive (2000/60/EC)	National Spatial Strategy for Ireland 2002-2020 People, Places and Potential	County and Town Development Plans
Surface Water Directive (75/440/EC)	Regional Planning Guidelines	Local Area Plans
Groundwater Directive (2006/118/EC)	Flood Risk Management Plans	Strategic Development Zones(SDZ)
Drinking Water Directive (98/83/EC)	River Basin Management Plans and associated Programmes of Measures - including International (Northern Ireland) Plans and Programmes	Housing Strategies
Bathing Water Directive (2006/7/EC)	Groundwater Protection Schemes	Biodiversity Action Plans
Marine Strategy Framework Directive (2008/56/EC)	Water Quality Management Plans	Heritage Plans
Urban Waste Water Treatment Directive (91/271/EEC)	Regional Waste Management Plans	County Landscape Character Assessments
Flood Directive (2007/60/EC)	National Renewable Energy Action Plan	
Freshwater Fish Directive (78/659/EEC)	Offshore Renewable Energy Development Plan	Special Amenity Area Order
Shellfish Waters Directive (2006/113/EC)	Harnessing Our Ocean Wealth	Shellfish Pollution Reduction Programmes
Habitats Directive (92/43/EEC)	Grid25 Implementation Programme	Freshwater Pearl Mussel Sub-Basin Management Plans
Birds Directive (2009/147/EC)	Harvest 2020	County Renewable Energy Strategies
Nitrates Directive (91/676/EEC)	Agri-vision 2015 Action Plan	Sludge Management Plans
	Rural Environmental Protection Scheme (REPS)	Greater Dublin Strategic Drainage Strategy
Dangerous Substances Directive (76/464/EEC) (2006/11/EC)	Agri-Environmental Options Scheme(AEOS)	Northern Ireland Water Resources Management Plan 2012
Environmental Quality Standards Directive (Directive 2008/105/EC)(also known as the Priority Substances Directive) as amended by Directive 2013/39/EU)	Green, Low-Carbon, Agri-environment Scheme (GLAS)	Strategic Integrated Framework Plan for the Shannon Estuary

European	National / Regional	Sub-Regional
Environmental Liability Directive (2004/35/EC)	National Rural Development Programme	Local/County Water Services Strategic Plans
SEA Directive (2001/42/EC)	Forests, Products and People. Ireland's Forest Policy - A Renewed Vision (Draft)	Local Catchment Flood Risk Management Plan
EIA Directive (85/337/EEC)	National Peatlands Strategy (Draft)	Office of Public Works Arterial Drainage Maintenance and High Risk Designation Programme 2011-2015
Renewable Energy Directive (2009/28/EC)	Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas	
EU 2020 climate and energy package	National Climate Change Strategy	
A Blueprint to Safeguard Europe's Water Resources		
European Union Biodiversity Strategy to 2020		

2.3 Elements of the WSSP with Potential to Cause Adverse Impacts on the Natura 2000 Network

As outlined in Section 2.2 above, the WSSP is a high level strategy for the development of water services in Ireland at the highest tier (Tier I) of water services planning. It is a national strategy that does not refer to specific geographic locations or individual projects. However, the WSSP will provide an indication of the types of infrastructural requirements likely to arise in the future. The draft WSSP will provide as indicative overview of the general objectives for Irish Water over a 25 year period.

The types of activities that Irish Water will be responsible for during the implementation of the WSSP that could give rise to significant effects on the Natura 2000 network can be categorised into two main groups, relating to either; water supply, or wastewater treatment, as follows:

Water Supply

- (Raw) Water abstraction (from surface or ground water);
- Treatment of raw water to a potable water standard (the level of treatment required will depend on the quality of raw water abstracted);
- Storage of raw and treated water;
- Distribute treated water to customers through a pipe network; and
- Construction, operation, maintenance and management of the above.

Waste Water Treatment

- Collection of wastewater from customers connected to the public wastewater sewer network;
- Collection and treatment of surface water where surface water drains are currently connected to the public sewer network;
- Treatment of wastewater to an acceptable standard set by legislation (the level of treatment required will depend on the type of receiving water and its assimilative capacity);
- Discharging treated wastewater to surface or groundwater under licence/certification by the EPA; and
- Construction, operation, maintenance and management of the above.

2.4 Natura 2000 Network

2.4.1.1 SACs and SPAs

The European Union's Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna), in conjunction with the Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds) is the main legal tool of the European Union for nature conservation. The Birds Directive was adopted in 1979 by nine Member States, and was the first EU Directive on nature conservation. Since its adoption it has been a vital legal instrument for the conservation of all birds that occur naturally across the EU, acting in the broadest public interest to conserve Europe's natural heritage for present and future generations.

The Habitats Directive was proposed in 1988 and after many significant changes was adopted in July 1992. The stated aim of the Directive is to contribute to the maintenance of biodiversity within the European territory of the Member States through the conservation of natural habitats and of wild fauna and flora of Community interest. The Birds and Habitats Directive together offer useful legal conceptual models and a set of standards and norms in common use.

The Habitat Directive seeks to establish "Natura 2000", a network of protected areas throughout the European Community. It is the responsibility of each member state to designate Special Areas of Conservation (SACs) to protect habitats and species, which, together with the Special Protection Areas (SPAs) designated under the EU Birds Directive, form Natura 2000.

Member States are required to maintain or restore at 'favourable conservation status' the habitats and species of Community Importance listed in Annex I and II of the Habitats Directive.

According to the Habitats Directive (Article 1(I)) an SAC means a site of Community importance designated by the Member States through a statutory, administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated.

SPAs are classified under Article 4 of the Birds Directive. These areas are designated in order to protect endangered bird species listed in Annex I or migratory species.

It is general practice, when screening a plan or project for compliance with the Habitats Directive, to identify all European sites within the functional area of the plan itself and within 15 km of the boundaries of the area the plan applies to. This approach is currently recommended in the Department of the Environmental, Heritage and Local Government's document Guidance for Planning Authorities and as a precautionary measure, to ensure that all potentially affected European sites are included in the screening process. As the WSSP applies to the entire ROI and may have effects beyond Ireland's borders, the screening exercise considers all European sites within the ROI and Northern Ireland (NI).

There are 423 sites chosen as cSACs in the ROI designated for the protection of 59 Annex I habitats and 24 Annex II species (known as Qualifying Interests (QIs)). There are a further 57 cSACs in NI designated for the protection of 51 Annex I habitats and 15 Annex II species. See Table 2.1 and Table 2.2 for the full list of qualifying habitats and species for which sites are designated. The current list of all cSACs in the ROI and NI is presented in Appendix I.

There are 165 SPAs in the ROI designated for the conservation of 68 bird species. There are a further 16 SPAs in NI designated for the conservation of 20 bird species. The bird species that form the Special Conservation Interests of SPAs in the ROI and NI are listed in Table 2.3. Not all of these species are listed in Annex I of the Birds Directive, as several species are regularly occurring migratory species for which Ireland has a special responsibility. The current list of all cSACs in the ROI and NI is presented in Appendix I.

A map showing the overall distribution and extent of European Sites throughout the island of Ireland is presented in Figure 2.2.

Table 2.1: List of Habitats for which SACs are designated.

EU Habitat code	Habitat name (abbreviated version) ²	Relevance to ROI / NI
91E0	Residual Alluvial Forests	ROI & NI
21A0	Machairs	ROI
91D0	Bog woodland	ROI & NI
91A0	Old Oak Woodlands	ROI & NI
91J0	Yew Woodlands	ROI
1110	Sandbanks	ROI & NI
1130	Estuaries	ROI & NI
1140	Tidal Mudflats and Sandflats	ROI & NI
1150	Coastal lagoons	ROI & NI
1160	Large shallow inlets and bays	ROI & NI
1170	Reefs	ROI & NI
1210	Annual vegetation of drift lines	ROI & NI
1220	Perennial vegetation of stony banks	ROI & NI
1230	Vegetated sea cliffs	ROI & NI
1310	Salicornia Mud	ROI & NI
1320	Spartina swards	ROI & NI
1330	Atlantic Salt Meadows	ROI & NI
1410	Mediterranean Salt Meadows	ROI
1420	Halophilous Scrubs	ROI
2110	Embryonic shifting dunes	ROI & NI
2120	Marram Dunes (white dunes)	ROI & NI
2130	Fixed Dunes (grey dunes)	ROI & NI
2140	Decalcified Empetrum Dunes	ROI
2150	Decalcified Dune Heath	ROI & NI
2160	Dunes with Hippophae rhamnoides	NI
2170	Dunes with Creeping Willow	ROI & NI
2190	Humid Dune Slacks	ROI & NI
3110	Lowland Oligotrophic Lakes	ROI
3130	Upland Oligotrophic Lakes	ROI & NI
3140	Hard Water Lakes	ROI & NI
3150	Natural eutrophic Waters	ROI & NI
3160	Dystrophic lakes	ROI & NI
3180	Turloughs	ROI & NI
3260	Floating River vegetation	ROI & NI
3270	Chenopodium rubri	ROI
4010	Wet heath	ROI & NI
4030	Dry heath	ROI & NI
4060	Alpine and Subalpine Heath	ROI & NI
5130	Juniper Scrub	ROI

² The sign '*' indicates priority habitat types.

EU Habitat code	Habitat name (abbreviated version) ²	Relevance to ROI / NI
6130	Calaminarian grassland	ROI
6170	Alpine and subalpine calcareous grasslands	NI
6210	Orchid-Rich Grassland/Calcareous Grassland	ROI & NI
6230	Species-rich Nardus Upland Grassland	ROI & NI
6410	Molinia meadows	ROI & NI
6430	Hydrophilous tall herb	ROI
6510	Lowland Hay Meadows	ROI
7110	Raised Bog (Active*)	ROI & NI
7120	Degraded raised bogs	ROI & NI
7130	Blanket bog (Active*)	ROI & NI
7140	Transition mires	ROI & NI
7150	Rhynchosporian Depressions	ROI & NI
7210	Cladium Fens	ROI & NI
7220	Petrifying springs	ROI & NI
7230	Alkaline fens	ROI & NI
8110	Siliceous scree	ROI & NI
8120	Calcareous scree	ROI & NI
8210	Calcareous rocky slopes	ROI & NI
8220	Siliceous Rocky Slopes	ROI & NI
8240	Limestone pavement*	ROI & NI
8310	Caves	ROI
8330	Sea Caves	ROI & NI
9180	Tilio-Acerion forests of slopes, screes and ravines	NI
9580	Mediterranean Taxus baccata woods	ROI

Table 2.2: List of Annex II species for which SACs are designated in ROI and NI.

EU Species code	Species Name	Latin	Relevance to ROI / NI
1013	Geyer's Whirl Snail	<i>Vertigo geyeri</i>	ROI
1014	Narrow-mouthed Whirl Snail	<i>Vertigo angustior</i>	ROI & NI
1016	Desmoulin's Whirl Snail	<i>Vertigo moulinsiana</i>	ROI
1024	Kerry Slug	<i>Geomalacus maculosus</i>	ROI
1029	Fresh Water Pearl Mussel	<i>Margaritifera margaritifera</i>	ROI & NI
1065	Marsh Fritillary	<i>Euphydryas aurinia</i>	ROI & NI
1092	White-clawed Crayfish	<i>Austropotamobius pallipes</i>	ROI & NI
1095	Sea Lamprey	<i>Petromyzon marinus</i>	ROI & NI
1096	Brook Lamprey	<i>Lampetra planeri</i>	ROI & NI
1099	River Lamprey	<i>Lampetra fluviatilis</i>	ROI & NI
1102	Allis Shad	<i>Alosa alosa</i>	ROI
1103	Twaite Shad	<i>Alosa fallax fallax</i>	ROI
1106	Atlantic Salmon	<i>Salmo salar</i>	ROI & NI
1303	Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	ROI
1349	Bottlenose Dolphin	<i>Tursiops truncatus</i>	ROI & NI
1351	Harbour Porpoise	<i>Phocoena phocoena</i>	ROI & NI

EU Species code	Species Name	Latin	Relevance to ROI / NI
1355	Otter	<i>Lutra lutra</i>	ROI & NI
1364	Grey Seal	<i>Halichoerus grypus</i>	ROI & NI
1365	Common (Harbour) Seal	<i>Phoca vitulina</i>	ROI & NI
1393	Slender Green Feather-moss	<i>Drepanocladus vernicosus</i>	ROI
1395	Petalwort	<i>Petalophyllum ralfsii</i>	ROI & NI
1421	Killarney Fern	<i>Trichomanes speciosum</i>	ROI
1528	Marsh Saxifrage	<i>Saxifraga hirculus</i>	ROI & NI
1833	Slender Naiad	<i>Najas flexilis</i>	ROI
1990	Nore Fresh Water Pearl Mussel	<i>Margaritifera durrovensis</i>	ROI

Table 2.3: List of Special Conservation Interests (SCIs) for which SPAs are designated in the ROI and NI. Wetlands are also listed as an SCI of some SPAs in the ROI.

Species of Special Conservation Interest	Latin	Annex I species	Relevance to ROI / NI
Arctic Tern	<i>Sterna paradisaea</i>	✓	ROI & NI
Barnacle Goose	<i>Branta leucopsis</i>	✓	ROI & NI
Bar-tailed Godwit	<i>Limosa lapponica</i>	✓	ROI
Bewick's Swan	<i>Cygnus columbianus</i>	✓	ROI
Black-headed Gull	<i>Larus ridibundus</i>		ROI
Black-tailed Godwit	<i>Limosa limosa</i>		ROI
Chough	<i>Pyrrhocorax pyrrhocorax</i>	✓	ROI
Common Gull	<i>Larus canus</i>		ROI
Common Scoter	<i>Melanitta nigra</i>		ROI
Common Tern	<i>Sterna hirundo</i>	✓	ROI & NI
Coot	<i>Fulica atra</i>		ROI
Cormorant	<i>Phalacrocorax carbo</i>		ROI & NI
Corncrake	<i>Crex crex</i>	✓	ROI
Curlew	<i>Numenius arquata</i>		ROI
Dunlin	<i>Calidris alpina schinzii</i>	✓	ROI
Fulmar	<i>Fulmarus glacialis</i>		ROI
Gadwall	<i>Anas strepera</i>		ROI
Gannet	<i>Morus bassanus</i>		ROI
Golden Plover	<i>Pluvialis apricaria</i>	✓	ROI & NI
Goldeneye	<i>Bucephala clangula</i>		ROI
Great Crested Grebe	<i>Podiceps cristatus</i>		ROI & NI
Great Northern Diver	<i>Gavia immer</i>	✓	ROI
Greenland White-fronted Goose	<i>Anser albifrons flavirostris</i>	✓	ROI
Greenshank	<i>Tringa nebularia</i>		ROI
Grey Heron	<i>Ardea cinerea</i>		ROI
Grey Plover	<i>Pluvialis squatarola</i>		ROI
Greylag Goose	<i>Anser anser</i>		ROI
Guillemot	<i>Uria aalge</i>		ROI & NI

Species of Special Conservation Interest	Latin	Annex I species	Relevance to ROI / NI
Hen Harrier	<i>Circus cyaneus</i>	✓	ROI & NI
Herring Gull	<i>Larus argentatus</i>		ROI
Kittiwake	<i>Rissa tridactyla</i>		ROI & NI
Knot	<i>Calidris canutus</i>		ROI & NI
Lapwing	<i>Vanellus Vanellus</i>		ROI
Leach's Petrel	<i>Oceanodroma leucorhoa</i>	✓	ROI
Lesser Black-backed Gull	<i>Larus fuscus</i>		ROI
Light-bellied Brent Goose	<i>Branta bernicla hrota</i>		ROI
Little Grebe	<i>Tachybaptus ruficollis</i>		ROI
Little Tern	<i>Sterna albifrons</i>	✓	ROI
Mallard	<i>Anas platyrhynchos</i>		ROI
Manx Shearwater	<i>Puffinus puffinus</i>		ROI & NI
Merlin	<i>Falco columbarius</i>	✓	ROI & NI
Oystercatcher	<i>Haematopus ostralegus</i>		ROI
Peregrine	<i>Falco peregrines</i>	✓	ROI & NI
Pintail	<i>Anas acuta</i>		ROI
Pochard	<i>Aythya farina</i>		ROI
Puffin	<i>Fratercula arctica</i>		ROI
Purple Sandpiper	<i>Calidris maritima</i>		ROI
Razorbill	<i>Alca torda</i>		ROI & NI
Red-breasted Merganser	<i>Mergus serrator</i>		ROI
Redshank	<i>Tringa tetanus</i>		ROI & NI
Red-throated Diver	<i>Gavia stellata</i>	✓	ROI
Ringed Plover	<i>Charadrius hiaticula</i>		ROI & NI
Roseate Tern	<i>Sterna dougallii</i>	✓	ROI & NI
Sanderling	<i>Calidris alba</i>		ROI
Sandwich Tern	<i>Sterna sandvicensis</i>	✓	ROI & NI
Scaup	<i>Aythya marila</i>		ROI
Shag	<i>Phalacrocorax aristotelis</i>		ROI
Shelduck	<i>Tadorna tadorna</i>		ROI
Shoveler	<i>Anas clypeata</i>		ROI
Storm Petrel	<i>Hydrobates pelagicus</i>	✓	ROI
Teal	<i>Anas crecca</i>		ROI
Tufted Duck	<i>Aythya fuligula</i>		ROI
Turnstone	<i>Arenaria interpres</i>		ROI & NI
Whooper Swan	<i>Cygnus cygnus</i>	✓	ROI & NI
Wigeon	<i>Anas penelope</i>		ROI

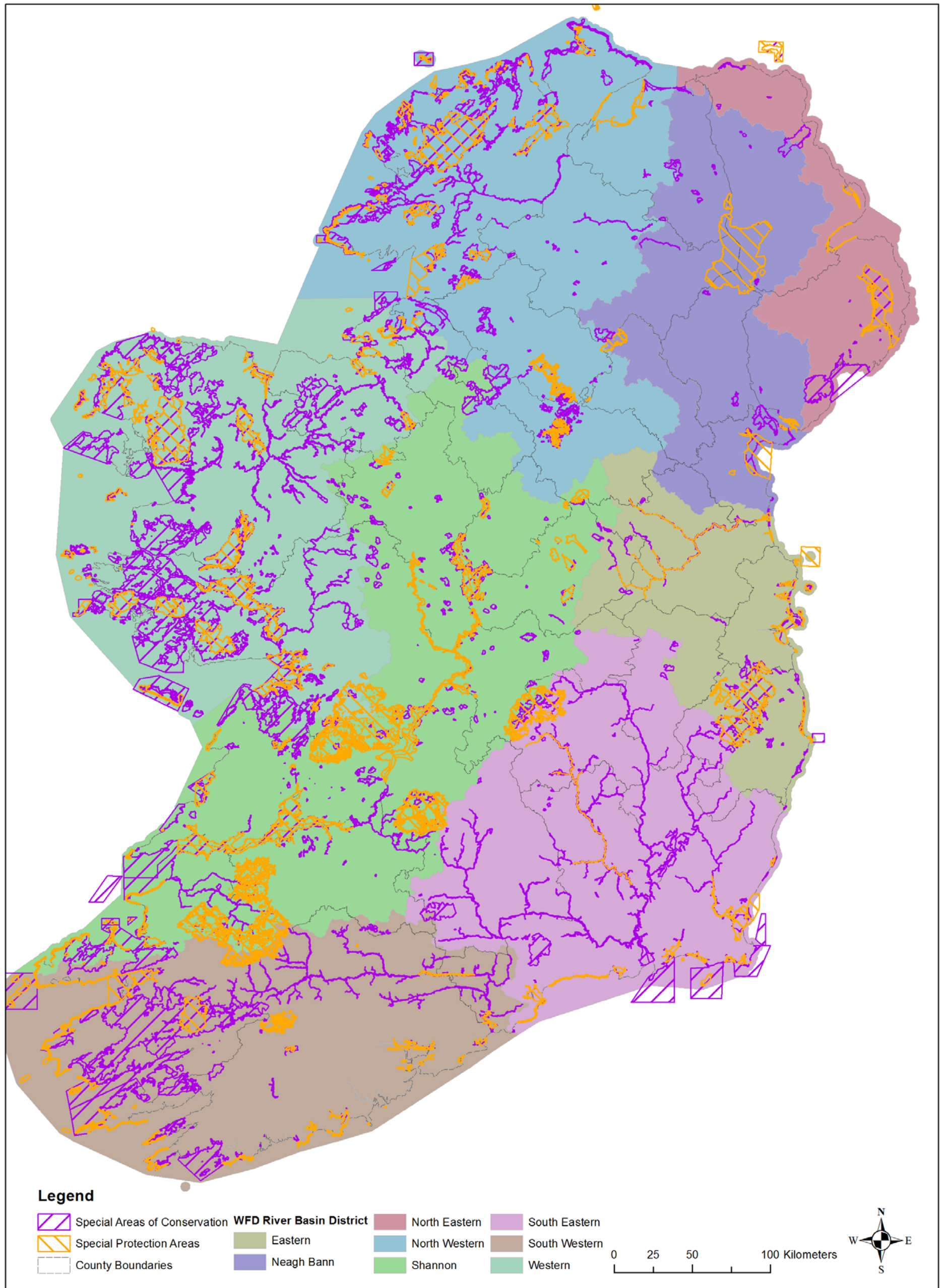


Figure 2.2: Map showing the distribution and extent of designated European sites on the island of Ireland overlain on the Water Framework Directive River Basin Districts.

2.5 Assessment Criteria

2.5.1 Direct, Indirect or Secondary Impacts

This section of the screening exercise includes a preliminary examination of the types of impacts that may arise during the implementation of the WSSP.

The type of impacts that may potentially arise depends on the characteristics of particular projects or activities undertaken by IW in achieving the objectives of the Plan. Typical projects or activities that could give rise to impacts include the construction, operation, maintenance, and management of the following:

- Water abstraction (surface water and groundwater);
- Water storage;
- Pipe network for delivery of treated water;
- Pipe network for the collection of waste water and surface water;
- Collection of waste water and surface water in the public sewer network;
- Treatment of waste water and surface water; and
- Discharging treated wastewater to surface or groundwater.

The European Commission's document "*Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*", lists impacts that may potentially occur upon the Natura 2000 network, listed as follows:

- Loss / Reduction of habitat area;
- Disturbance to key species;
- Habitat / Species fragmentation;
- Reduction in species density; and
- Changes in key indicators of conservation value (such as decrease in water quality and / or quantity).

A key consideration in determining potential for adverse impacts on European sites is the sensitivity of features for which the sites are designated. The Qualifying Interests of cSACs and Special Conservation Interests of SPAs can be categorised into a number of groups based on their sensitivity to impacts from different pathways as follows:

- Surface Water Dependant Habitats and Species;
- Ground Water Dependant Habitats and Species;
- Coastal Transitional and Marine Habitats and Species; and
- Other Terrestrial Habitats and Species.

A summary of potential impacts on European sites taking into consideration possible sources of impacts and the sensitivity of sites is presented in Table 2.4.

2.5.1.1 Loss / Reduction of Habitat Area

Direct habitat loss is caused where there is complete removal of a habitat type. Habitat loss can also occur through the reduction of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination, or physical alteration.

Loss or reduction of habitat area may occur through the installation of necessary water pipes and water services facilities. Direct loss or reduction of habitat area will be confined to works which take place within or in close proximity to a European site(s).

2.5.1.2 Disturbance to Key Species

Key species are defined as those listed on the Annexes of the EU Habitats Directive and Bird's Directive for which sites are designated. Disturbance to species supported by a European site is likely to increase where there is an increase in activity levels from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, light, emanating from construction and / or operational activities.

In relation to the activities of Irish Water, disturbance to key species could result from construction associated with any new water services infrastructure that may be required to meet the objectives of the WSSP. Similarly, operational activities of Irish Water could also give rise to disturbance where they are undertaken in proximity to a European site(s).

2.5.1.3 Habitat / Species Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of habitats resulting in interference with existing ecological units. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors when construction may introduce a barrier to the free movement of species from one area of habitat to another. Habitat / species fragmentation may arise from the construction of new water services infrastructure and is particularly relevant to linear developments such as the laying major pipelines through semi-natural areas. Habitat / species fragmentation could also arise from ongoing operation of water services due to for example, deterioration in water quality as a result of discharges to sensitive receptors.

2.5.1.4 Reduction in Species Density

Reduction in species density may result from loss / reduction of habitat area, disturbance, or fragmentation, either individually or in combination. In addition, changes in habitat quality could lead to reductions in populations of sensitive species. In relation to the WSSP, surface and groundwater dependant species would be sensitive to any deterioration in habitat quality due to changes in water quality or quantity that could result from water abstraction or discharges to receiving waters (see below).

2.5.1.5 Changes in Key Indicators of Conservation Value

The key indicators of conservation value for the majority of sites likely to be affected by the implementation of the WSSP are surface water and groundwater quality and quantity.

Any deterioration in water quality within surface and ground water dependant ecosystems can lead to direct and indirect impacts on a range of habitats and species of conservation importance.

Similarly, changes in water quantity (water table height; flow regime; flow rates etc) can also impact on many habitats and species that are associated with freshwater and marine European sites.

In relation to the WSSP, the main sources of such impacts could include:

- the abstraction of surface water or groundwater from areas that are hydrologically linked to sensitive European sites;
- the discharge of treated waste water to sensitive surface or groundwater receptors that are hydrologically linked to sensitive European sites; and
- potential discharge of silt laden waters or other pollutants from construction related projects.

Table 2.4: Potential impacts arising from activities and projects likely to be undertaken in order to achieve the aims of the WSSP.

WSSP Related Activities / Projects	Potential Impacts	Vulnerable Features of European Sites	European Sites Potentially Affected
Water abstraction	<ul style="list-style-type: none"> • Reduction of habitat area; • Reduction in species density; • Changes in key indicators of conservation value (water quantity). 	<p>Surface water dependant habitats and species;</p> <p>Groundwater dependant habitats and species.</p>	<p>All sites which contain surface and/or groundwater dependant habitats and species that are hydrologically linked to abstractions.</p>
Discharge of treated waste water	<ul style="list-style-type: none"> • Reduction of habitat area; • Reduction in species density; • Fragmentation; • Changes in key indicators of conservation value (water quantity and quality). 	<p>Surface water dependant habitats and species;</p> <p>Groundwater dependant habitats and species;</p> <p>Coastal transitional and marine habitats and species.</p>	<p>All sites hydrologically connected with receiving waters which are designated for any of the following:</p> <ul style="list-style-type: none"> • Surface water dependant habitats and species • Groundwater dependant habitats and species • Coastal transitional and marine habitats and species.
Development of new water services infrastructure	<ul style="list-style-type: none"> • Loss / reduction of habitat area; • Disturbance to species; • Fragmentation; • Changes in key indicators of conservation value. 	<p>Surface water dependant habitats and species;</p> <p>Groundwater dependant habitats and species;</p> <p>Terrestrial habitats and species;</p> <p>Coastal transitional and marine habitats and species.</p>	<p>All mainland and coastal sites within ROI;</p> <p>Sites in NI that contain water dependant habitats and species which are hydrologically linked to the ROI.</p>

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

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

The primary purpose of the WSSP is not the nature conservation management of the sites, but to provide for development and maintenance of water supply and waste water treatment. Therefore, the WSSP is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

2.7 European Sites Potentially Affected by the Plan

The draft WSSP is a high level plan which outlines objectives of Irish Water that will influence future developments of water services and waste water treatment in Ireland. As such, the plan covers large unspecific areas and does not identify particular areas for development. This broad scope limits the Appropriate Assessment as to what can be adequately assessed at this stage.

A high level assessment of potential impacts on European sites due to the implementation of the WSSP is presented in Table 2.4. This assessment concludes that the following European sites should be screened in and therefore require further consideration in the AA process as it is not possible at this stage to rule out potential significant effects:

- All European sites that occur in the ROI (see Appendix I);
- All European sites in NI that are hydrologically linked to the ROI and are designated for water dependant habitats and / or species (the only sites in NI that are hydrologically isolated from the ROI (and therefore can be screened out) are those that occur within the North Eastern River Basin District, see Figure 2.2).

2.8 Other Plans and Programmes

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely impact upon European sites. Table 2.5 lists the plans or projects that may interact with the draft Plan to cause in-combination effects to European sites. The plans or projects are listed according to a spatial hierarchy of International, National, Regional/Local Projects and Plans.

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the draft Plan, it is recognised that the identification of cumulative impacts is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the lower level plan or project-level.

Further examination of the WSSP by the AA will take account of Irish Water's obligation to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management led by the Water Framework Directive and implemented by the River Basin Management Plans.

Table 2.5: Plans and Projects Likely to Cause In-Combination Effects

Directive	Purpose	Interactions resulting in Cumulative Impacts
International		
EU Water Framework Directive (2000/60/EC)	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist Ireland in achieving its WFD objectives.
Bathing Water Directive (2006/7/EC)	Preserve, protect and improve the quality of the environment and to protect human health by complementing the Water Framework Directive 2000/60/EC	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve water quality. Implementation of the WSSP should assist in achieving the objectives of the Directive.
Marine Strategy Framework Directive (2008/56/EC)	Establishes a framework whereby the necessary measures are undertaken to achieve or maintain good environmental status in the marine environment by the year 2020.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist in achieving the objectives of the Directive.
Shellfish Waters Directive (2006/113/EC)	Protect and improve the quality of shellfish waters in order to support selected shellfish populations. The Shellfish Waters Directive (92006/113/EC) was repealed by the Water Framework Directive from December 2013.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve water quality. Implementation of the WSSP should assist in achieving the objectives of the Directive.
EU Freshwater Fish Directive (78/659/EEC)	Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining	No risk of likely significant in-combination effects will result as the primary purpose of the

Directive	Purpose	Interactions resulting in Cumulative Impacts
	fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.	Directive is to improve environmental quality. Implementation of the WSSP should assist Ireland in achieving its obligations under the Directive.
EU Groundwater Directive (2006/118/EC)	This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist Ireland in achieving its obligations under the Directive.
EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	Potential in-combination impacts may arise where changes in hydrographic flow could result from the development of water services infrastructure.
Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Urban Wastewater Treatment Directive (91/271/EEC)	The primary objective is to protect the environment from the adverse effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable disposal of sludge arising from wastewater treatment.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist Ireland in achieving its obligations under the Directive.
Sewage Sludge Directive (86/278/EEC)	Objective is to encourage the appropriate use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist Ireland in achieving its obligations under the Directive.
The Integrated Pollution Prevention Control Directive (96/61/EC)	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land from industrial sources.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. Implementation of the WSSP should assist in achieving the objectives of the Directive.
European Union Biodiversity Strategy to 2020	Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green	No risk of likely significant in-combination effects will result as the primary purpose of the

Directive	Purpose	Interactions resulting in Cumulative Impacts
	economy. Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible.	Strategy is to improve water quality. Opportunities may exist in the implementation of the WSSP to assist in achieving the objectives of the Strategy.
National / Regional		
National Spatial Strategy 2002-2020	Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.	Potential in-combination impacts may arise where there is a requirement to provide new water services infrastructure.
Grid 25	Grid25 is a high-level strategy outlining how EirGrid intends to undertake the development of the electricity transmission grid in the short, medium and longer terms, to support a long-term sustainable and reliable electricity supply. The Grid25 strategy thereby seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure. The Grid25 Implementation Programme (IP) is a practical strategic overview of how the early stages of Grid25 are intended to be implemented.	Potential in-combination impacts may arise where new infrastructure is planned.
Harvest 2020	Aims to innovate and expand the Irish food industry in response to increased global demand for quality foods. Sets out a vision for the potential growth in agricultural output after the removal of milk quotas in 2015	Potential in-combination impacts may arise due to increased pressures on the water environment associated with an intensification of agriculture.
Rural Environmental Protection Scheme (REPS) Agri-Environmental Options Scheme(AEOS) Green, Low-Carbon, Agri-environment Scheme (GLAS)	Agri-environmental funding schemes aimed at rural development for the environmental enhancement and protection	No risk of likely significant in-combination effects will result as the primary purpose of the schemes is to improve environmental quality.
Forests, Products and People. Ireland's Forest Policy - A Renewed Vision (Draft)	Outlines the framework for developing an internationally competitive and sustainable forestry sector that provides a range of economic, environmental and social benefits.	Potential in-combination impacts may arise due to any increased pressures on the water environment associated with forestry activities in sensitive areas.
National Peatlands Strategy (Draft)	Establishes principles in relation to Irish peatlands in order to guide Government policy. Aims to provide a framework for which all of the peatlands within the State can be managed responsibly in	No risk of likely significant in-combination effects foreseen.

Directive	Purpose	Interactions resulting in Cumulative Impacts
	order to optimise their social, environmental and economic contribution.	
Raised Bog SAC Management Plan and Review of Raised Bog Natural Heritage Areas	Aims to meet nature conservation obligations while having regard to national and local economic, social and cultural needs.	No risk of likely significant in-combination effects foreseen.
Regional Planning Guidelines	Policy document which aims to direct the future growth of the Midlands Area over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS)	Potential in-combination impacts may arise where there is a requirement to provide for new water services infrastructure.
Office of Public Works Arterial Drainage Maintenance and High Risk Designation Programme 2011-2015	Part 1 of the Programme comprises Arterial Drainage Maintenance (including Scheme Channel Maintenance Works, Maintenance of Scheme Structures, Scheme Embankment Maintenance and Flood Relief Scheme Maintenance. Part 2 of the Programme comprises High Risk Channel Designation.	Potential in-combination impacts may arise where there are pressures on Natura sites from Arterial Drainage maintenance schemes.
Local		
County Renewable Energy Strategies	Aims to ensure competitive, secure and sustainable energy.	Potential in-combination impacts may arise where new infrastructure is planned.
County / City / Town Development Plans	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	The core aims of Development Plans are to increase the community's employment, infrastructure, energy, residential, economic and water services potential. Potential in-combination impacts may arise where there is a requirement to provide for new water services infrastructure.

2.9 Conclusions

The likely significant effects that may arise from the implementation of the WSSP have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network. On the basis of the findings of this Screening for Appropriate Assessment, it is concluded that the Plan:

- (i) is not directly connected with or necessary to the management of a European site and
- (ii) may have significant impacts on the Natura 2000 network.

Therefore, applying the Precautionary Principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 Appropriate Assessment is required.

As the WSSP progresses further the AA screening outlined in this report should be updated and revised as new information becomes available. It is recommended that the screening should be refined further to determine the relevant European sites that can be screened out based on the absence of particular habitats or species.

**APPROPRIATE ASSESSMENT
OUTLINE SCREENING REPORT**

APPENDIX I

LIST OF EUROPEAN SITES (CSACs AND SPAs) CONSIDERED

IN SUPPORT OF THE
APPROPRIATE ASSESSMENT
OF THE
Water Services Strategic Plan

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

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JUNE 2014

List of Tables

Table 1: Candidate Special Areas of Conservation that were considered in the Appropriate Assessment of the WSSP.	2
Table 2: SPAs that were considered in the Appropriate Assessment Screening of the WSSP.	14

Introduction

This Appendix presents a list of all candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs) under consideration in the Appropriate Assessment Screening report prepared in support of the Water Services Strategic Plan (WSSP) being developed by Irish Water.

Those sites that are designated as cSACs are presented in Table 1 while those sites designated as SPAs are presented in Table 2.

Table 1: Candidate Special Areas of Conservation that were considered in the Appropriate Assessment of the WSSP.

Site Code	Site Name	ROI / NI
IE0000006	Killyconny Bog (Cloghbally)	ROI
IE0000007	Lough Oughter and Associated Loughs	ROI
IE0000014	Ballyallia Lake	ROI
IE0000016	Ballycullinan Lake	ROI
IE0000019	Ballyogan Lough	ROI
IE0000020	Black Head-Poulsallagh Complex	ROI
IE0000030	Danes Hole, Poulnalecka	ROI
IE0000032	Dromore Woods and Loughs	ROI
IE0000036	Inagh River Estuary	ROI
IE0000037	Pouladatig Cave	ROI
IE0000051	Lough Gash Turlough	ROI
IE0000054	Moneen Mountain	ROI
IE0000057	Moyree River System	ROI
IE0000064	Poulnagordon Cave (Quin)	ROI
IE0000077	Ballymacoda (Clonpriest and Pillmore)	ROI
IE0000090	Glengarriff Harbour and Woodland	ROI
IE0000091	Clonakilty Bay	ROI
IE0000093	Caha Mountains	ROI
IE0000097	Lough Hyne Nature Reserve and Environs	ROI
IE0000101	Roaringwater Bay and Islands	ROI
IE0000102	Sheep's Head	ROI
IE0000106	St. Gobnet's Wood	ROI
IE0000108	The Gearagh	ROI
IE0000109	Three Castle Head to Mizen Head	ROI
IE0000111	Aran Island (Donegal) Cliffs	ROI
IE0000115	Ballintra	ROI
IE0000116	Ballyarr Wood	ROI
IE0000129	Croaghonagh Bog	ROI
IE0000133	Donegal Bay (Murvagh)	ROI
IE0000138	Durnesh Lough	ROI

Site Code	Site Name	ROI / NI
IE0000140	Fawnboy Bog/Lough Nacung	ROI
IE0000142	Gannivegil Bog	ROI
IE0000147	Horn Head and Rinclevan	ROI
IE0000154	Inishtrahull	ROI
IE0000163	Lough Eske and Ardnamona Wood	ROI
IE0000164	Lough Nagreany Dunes	ROI
IE0000165	Lough Nillan Bog (Carrickatlieve)	ROI
IE0000168	Magheradrumman Bog	ROI
IE0000172	Meenaguse/Ardbane Bog	ROI
IE0000173	Meentygrannagh Bog	ROI
IE0000174	Curraghchase Woods	ROI
IE0000181	Rathlin O'Birne Island	ROI
IE0000185	Sessiagh Lough	ROI
IE0000189	Slieve League	ROI
IE0000190	Slieve Tooley/Tormore Island/Loughros Beg Bay	ROI
IE0000191	St. John's Point	ROI
IE0000194	Tranarossan and Melmore Lough	ROI
IE0000197	West of Ardara/Maas Road	ROI
IE0000199	Baldoyle Bay	ROI
IE0000202	Howth Head	ROI
IE0000204	Lambay Island	ROI
IE0000205	Malahide Estuary	ROI
IE0000206	North Dublin Bay	ROI
IE0000208	Rogerstown Estuary	ROI
IE0000210	South Dublin Bay	ROI
IE0000212	Inishmaan Island	ROI
IE0000213	Inishmore Island	ROI
IE0000216	River Shannon Callows	ROI
IE0000218	Coolcam Turlough	ROI
IE0000231	Barroughter Bog	ROI
IE0000238	Caherglassaun Turlough	ROI
IE0000242	Castletaylor Complex	ROI
IE0000248	Cloonmoylan Bog	ROI
IE0000252	Coole-Garryland Complex	ROI
IE0000255	Croaghill Turlough	ROI
IE0000261	Derrycrag Wood Nature Reserve	ROI
IE0000268	Galway Bay Complex	ROI
IE0000278	Inishbofin and Inishshark	ROI
IE0000285	Kilsallagh Bog	ROI
IE0000286	Kiltartan Cave (Coole)	ROI
IE0000295	Levally Lough	ROI
IE0000296	Lisnageeragh Bog and Ballinastack Turlough	ROI

Site Code	Site Name	ROI / NI
IE0000297	Lough Corrib	ROI
IE0000299	Lough Cutra	ROI
IE0000301	Lough Lurgen Bog/Glenamaddy Turlough	ROI
IE0000304	Lough Rea	ROI
IE0000308	Loughatorick South Bog	ROI
IE0000318	Peterswell Turlough	ROI
IE0000319	Pollnacknockaun Wood Nature Reserve	ROI
IE0000322	Rahasane Turlough	ROI
IE0000324	Rosroe Bog	ROI
IE0000326	Shankill West Bog	ROI
IE0000328	Slyne Head Islands	ROI
IE0000330	Tully Mountain	ROI
IE0000332	Akeragh, Banna and Barrow Harbour	ROI
IE0000335	Ballinskelligs Bay and Inny Estuary	ROI
IE0000343	Castlemaine Harbour	ROI
IE0000353	Old Domestic Building, Dromore Wood	ROI
IE0000364	Kilgarvan Ice House	ROI
IE0000365	Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment	ROI
IE0000370	Lough Yganavan and Lough Nambrackdarrig	ROI
IE0000375	Mount Brandon	ROI
IE0000382	Sheheree (Ardagh) Bog	ROI
IE0000391	Ballynafagh Bog	ROI
IE0000396	Pollardstown Fen	ROI
IE0000397	Red Bog, Kildare	ROI
IE0000404	Hugginstown Fen	ROI
IE0000407	The Loughans	ROI
IE0000412	Slieve Bloom Mountains	ROI
IE0000428	Lough Melvin	ROI
IE0000432	Barrigone	ROI
IE0000439	Tory Hill	ROI
IE0000440	Lough Ree	ROI
IE0000448	Fortwilliam Turlough	ROI
IE0000453	Carlingford Mountain	ROI
IE0000455	Dundalk Bay	ROI
IE0000458	Killala Bay/Moy Estuary	ROI
IE0000461	Ardkill Turlough	ROI
IE0000463	Balla Turlough	ROI
IE0000466	Bellacorick Iron Flush	ROI
IE0000470	Mullet/Blacksod Bay Complex	ROI
IE0000471	Brackloon Woods	ROI
IE0000472	Broadhaven Bay	ROI

Site Code	Site Name	ROI / NI
IE0000474	Ballymaglancy Cave, Cong	ROI
IE0000475	Carrowkeel Turlough	ROI
IE0000476	Carrowmore Lake Complex	ROI
IE0000479	Cloughmoyne	ROI
IE0000480	Clyard Kettle-holes	ROI
IE0000484	Cross Lough (Killadoon)	ROI
IE0000485	Corraun Plateau	ROI
IE0000492	Dooastle Turlough	ROI
IE0000495	Duvillaun Islands	ROI
IE0000497	Flughany Bog	ROI
IE0000500	Glenamoy Bog Complex	ROI
IE0000503	Greaghans Turlough	ROI
IE0000504	Kilglassan/Caheravoostia Turlough Complex	ROI
IE0000507	Inishkea Islands	ROI
IE0000516	Lackan Saltmarsh and Kilcummin Head	ROI
IE0000522	Lough Gall Bog	ROI
IE0000525	Shrule Turlough	ROI
IE0000527	Moore Hall (Lough Carra)	ROI
IE0000532	Oldhead Wood	ROI
IE0000534	Owenduff/Nephin Complex	ROI
IE0000541	Skealaghan Turlough	ROI
IE0000542	Slieve Fyagh Bog	ROI
IE0000566	All Saints Bog and Esker	ROI
IE0000571	Charleville Wood	ROI
IE0000572	Clara Bog	ROI
IE0000575	Ferbane Bog	ROI
IE0000576	Fin Lough (Offaly)	ROI
IE0000580	Mongan Bog	ROI
IE0000581	Moyclare Bog	ROI
IE0000582	Raheenmore Bog	ROI
IE0000584	Cuilcagh - Anierin Uplands	ROI
IE0000585	Sharavogue Bog	ROI
IE0000588	Ballinturly Turlough	ROI
IE0000592	Bellanagare Bog	ROI
IE0000595	Callow Bog	ROI
IE0000597	Carrowbehy/Caher Bog	ROI
IE0000600	Cloonchambers Bog	ROI
IE0000604	Derrinea Bog	ROI
IE0000606	Lough Fingall Complex	ROI
IE0000607	Errit Lough	ROI
IE0000609	Lisduff Turlough	ROI
IE0000610	Lough Croan Turlough	ROI

Site Code	Site Name	ROI / NI
IE0000611	Lough Funshinagh	ROI
IE0000612	Mullygollan Turlough	ROI
IE0000614	Cloonshanville Bog	ROI
IE0000622	Ballysadare Bay	ROI
IE0000623	Ben Bulbin, Gleniff and Glenade Complex	ROI
IE0000625	Bunduff Lough and Machair/Trawalua/Mullaghmore	ROI
IE0000627	Cummeen Strand/Drumcliff Bay (Sligo Bay)	ROI
IE0000633	Lough Hoe Bog	ROI
IE0000634	Lough Nabrickkeagh Bog	ROI
IE0000636	Templehouse and Cloonacleigha Loughs	ROI
IE0000637	Turloughmore (Sligo)	ROI
IE0000638	Union Wood	ROI
IE0000641	Ballyduff/Clonfinane Bog	ROI
IE0000646	Galtee Mountains	ROI
IE0000647	Kilcarren-Firville Bog	ROI
IE0000665	Helvick Head	ROI
IE0000668	Nier Valley Woodlands	ROI
IE0000671	Tramore Dunes and Backstrand	ROI
IE0000679	Garriskil Bog	ROI
IE0000685	Lough Ennell	ROI
IE0000688	Lough Owel	ROI
IE0000692	Scragh Bog	ROI
IE0000696	Ballyteige Burrow	ROI
IE0000697	Bannow Bay	ROI
IE0000700	Cahore Polders and Dunes	ROI
IE0000704	Lady's Island Lake	ROI
IE0000707	Saltee Islands	ROI
IE0000708	Screen Hills	ROI
IE0000709	Tacumshin Lake	ROI
IE0000710	Raven Point Nature Reserve	ROI
IE0000713	Ballyman Glen	ROI
IE0000714	Bray Head	ROI
IE0000716	Carriggower Bog	ROI
IE0000717	Deputy's Pass Nature Reserve	ROI
IE0000719	Glen of the Downs	ROI
IE0000725	Knocksink Wood	ROI
IE0000729	Buckroneys-Brittis Dunes and Fen	ROI
IE0000733	Vale of Clara (Rathdrum Wood)	ROI
IE0000764	Hook Head	ROI
IE0000770	Blackstairs Mountains	ROI
IE0000781	Slaney River Valley	ROI
IE0000831	Cullahill Mountain	ROI

Site Code	Site Name	ROI / NI
IE0000849	Spahill and Clomantagh Hill	ROI
IE0000859	Clonaslee Eskers and Derry Bog	ROI
IE0000869	Lisbigney Bog	ROI
IE0000919	Ridge Road, SW of Rapemills	ROI
IE0000925	The Long Derries, Edenderry	ROI
IE0000930	Clare Glen	ROI
IE0000934	Kilduff, Devilsbit Mountain	ROI
IE0000939	Silvermine Mountains	ROI
IE0000979	Corratirrim	ROI
IE0000994	Ballyteige (Clare)	ROI
IE0000996	Ballyvaughan Turlough	ROI
IE0001013	Glenomra Wood	ROI
IE0001021	Carrowmore Point to Spanish Point and Islands	ROI
IE0001040	Barley Cove to Ballyrisode Point	ROI
IE0001043	Cleanderry Wood	ROI
IE0001058	Great Island Channel	ROI
IE0001061	Kilkeran Lake and Castlefreke Dunes	ROI
IE0001070	Myross Wood	ROI
IE0001090	Ballyness Bay	ROI
IE0001107	Coolvoy Bog	ROI
IE0001125	Dunragh Loughs/Pettigo Plateau	ROI
IE0001141	Gweedore Bay and Islands	ROI
IE0001151	Kindrum Lough	ROI
IE0001179	Muckish Mountain	ROI
IE0001190	Sheephaven	ROI
IE0001195	Termon Strand	ROI
IE0001197	Keeper Hill	ROI
IE0001209	Glenasmole Valley	ROI
IE0001228	Aughrusbeg Machair and Lake	ROI
IE0001230	Courtmacsherry Estuary	ROI
IE0001242	Carrownagappul Bog	ROI
IE0001251	Cregduff Lough	ROI
IE0001257	Dog's Bay	ROI
IE0001271	Gortnandarragh Limestone Pavement	ROI
IE0001275	Inisheer Island	ROI
IE0001285	Kiltiernan Turlough	ROI
IE0001309	Omey Island Machair	ROI
IE0001311	Rusheenduff Lough	ROI
IE0001312	Ross Lake and Woods	ROI
IE0001313	Rosturra Wood	ROI
IE0001321	Termon Lough	ROI
IE0001342	Cloonee and Inchiquin Loughs, Uragh Wood	ROI

Site Code	Site Name	ROI / NI
IE0001371	Mucksna Wood	ROI
IE0001387	Ballynafagh Lake	ROI
IE0001398	Rye Water Valley/Carton	ROI
IE0001403	Arroo Mountain	ROI
IE0001430	Glen Bog	ROI
IE0001432	Glenstal Wood	ROI
IE0001459	Clogher Head	ROI
IE0001482	Clew Bay Complex	ROI
IE0001497	Doogort Machair/Lough Doo	ROI
IE0001501	Erris Head	ROI
IE0001513	Keel Machair/Menaun Cliffs	ROI
IE0001529	Lough Cahasy, Lough Baun and Roonah Lough	ROI
IE0001536	Mocorha Lough	ROI
IE0001547	Castletownshend	ROI
IE0001571	Urlaur Lakes	ROI
IE0001625	Castlesampson Esker	ROI
IE0001626	Annaghmore Lough (Roscommon)	ROI
IE0001637	Four Roads Turlough	ROI
IE0001656	Bricklieve Mountains & Keishcorran	ROI
IE0001669	Knockalongy and Knockachree Cliffs	ROI
IE0001673	Lough Arrow	ROI
IE0001680	Streedagh Point Dunes	ROI
IE0001683	Liskeenan Fen	ROI
IE0001741	Kilmuckridge-Tinnaberna Sandhills	ROI
IE0001742	Kilpatrick Sandhills	ROI
IE0001757	Holdenstown Bog	ROI
IE0001766	Magherabeg Dunes	ROI
IE0001774	Lough Carra/Mask Complex	ROI
IE0001776	Pilgrim's Road Esker	ROI
IE0001786	Kilroosky Lough Cluster	ROI
IE0001810	White Lough, Ben Loughs and Lough Doo	ROI
IE0001818	Lough Forbes Complex	ROI
IE0001831	Split Hills and Long Hill Esker	ROI
IE0001847	Philipston Marsh	ROI
IE0001858	Galmoy Fen	ROI
IE0001873	Derryclogher (Knockboy) Bog	ROI
IE0001879	Glanmore Bog	ROI
IE0001880	Meenaguse Scragh	ROI
IE0001881	Maulagowna Bog	ROI
IE0001890	Mullaghanish Bog	ROI
IE0001898	Unshin River	ROI
IE0001899	Cloonakillina Lough	ROI

Site Code	Site Name	ROI / NI
IE0001912	Glendree Bog	ROI
IE0001913	Sonnagh Bog	ROI
IE0001919	Glenade Lough	ROI
IE0001922	Bellacorick Bog Complex	ROI
IE0001926	East Burren Complex	ROI
IE0001932	Mweelrea/Sheeffry/Erriff Complex	ROI
IE0001952	Comeragh Mountains	ROI
IE0001955	Croaghaun/Slievemore	ROI
IE0001957	Boyne Coast and Estuary	ROI
IE0001975	Ballyhoorisky Point to Fanad Head	ROI
IE0001976	Lough Gill	ROI
IE0001992	Tamur Bog	ROI
IE0002005	Bellacragher Saltmarsh	ROI
IE0002006	Ox Mountains Bogs	ROI
IE0002008	Maumturk Mountains	ROI
IE0002010	Old Domestic Building (Keevagh)	ROI
IE0002012	North Inishowen Coast	ROI
IE0002031	The Twelve Bens/Garraun Complex	ROI
IE0002032	Boleybrack Mountain	ROI
IE0002034	Connemara Bog Complex	ROI
IE0002036	Ballyhoura Mountains	ROI
IE0002037	Carrigeenamronety Hill	ROI
IE0002041	Old Domestic Building, Curraglass Wood	ROI
IE0002047	Cloghernagore Bog and Glenveagh National Park	ROI
IE0002070	Tralee Bay and Magharees Peninsula, West to Cloghane	ROI
IE0002074	Slyne Head Peninsula	ROI
IE0002081	Ballinafad	ROI
IE0002091	Newhall and Edenvale Complex	ROI
IE0002098	Old Domestic Building, Askive Wood	ROI
IE0002110	Corliskea/Trien/Cloonfelliv Bog	ROI
IE0002111	Kilkieran Bay and Islands	ROI
IE0002112	Ballyseedy Wood	ROI
IE0002117	Lough Coy	ROI
IE0002118	Barnahallia Lough	ROI
IE0002119	Lough Nageeron	ROI
IE0002120	Lough Bane and Lough Glass	ROI
IE0002121	Lough Lene	ROI
IE0002122	Wicklow Mountains	ROI
IE0002123	Ardmore Head	ROI
IE0002124	Bolingbrook Hill	ROI
IE0002125	Anglesey Road	ROI
IE0002126	Pollagoona Bog	ROI

Site Code	Site Name	ROI / NI
IE0002129	Murvey Machair	ROI
IE0002130	Tully Lough	ROI
IE0002135	Lough Nageage	ROI
IE0002137	Lower River Suir	ROI
IE0002141	Mountmellick	ROI
IE0002144	Newport River	ROI
IE0002147	Lisduff Fen	ROI
IE0002157	Newgrove House	ROI
IE0002158	Kenmare River	ROI
IE0002159	Mulroy Bay	ROI
IE0002161	Long Bank	ROI
IE0002162	River Barrow and River Nore	ROI
IE0002164	Lough Golagh and Breesy Hill	ROI
IE0002165	Lower River Shannon	ROI
IE0002170	Blackwater River (Cork/Waterford)	ROI
IE0002171	Bandon River	ROI
IE0002172	Blasket Islands	ROI
IE0002173	Blackwater River (Kerry)	ROI
IE0002176	Leannan River	ROI
IE0002177	Lough Dahybaun	ROI
IE0002179	Towerhill House	ROI
IE0002180	Gortacarnaun Wood	ROI
IE0002181	Drummin Wood	ROI
IE0002185	Slieve Mish Mountains	ROI
IE0002187	Drongawn Lough	ROI
IE0002189	Farranamanagh Lough	ROI
IE0002193	Ireland's Eye	ROI
IE0002213	Glenloughaun Esker	ROI
IE0002214	Killeglan Grassland	ROI
IE0002236	Island Fen	ROI
IE0002241	Lough Derg, North-East Shore	ROI
IE0002243	Clare Island Cliffs	ROI
IE0002244	Ardrahan Grassland	ROI
IE0002245	Old Farm Buildings, Ballymacrogan	ROI
IE0002246	Ballycullinan, Old Domestic Building	ROI
IE0002247	Toonagh Estate	ROI
IE0002249	The Murrough Wetlands	ROI
IE0002250	Carrowmore Dunes	ROI
IE0002252	Thomastown Quarry	ROI
IE0002256	Ballyprior Grassland	ROI
IE0002257	Moanour Mountain	ROI
IE0002258	Silvermines Mountains West	ROI

Site Code	Site Name	ROI / NI
IE0002259	Tory Island Coast	ROI
IE0002261	Magharee Islands	ROI
IE0002262	Valencia Harbour/Portmagee Channel	ROI
IE0002263	Kerry Head Shoal	ROI
IE0002264	Kilkee Reefs	ROI
IE0002265	Kingstown Bay	ROI
IE0002268	Achill Head	ROI
IE0002269	Carnsore Point	ROI
IE0002274	Wicklow Reef	ROI
IE0002279	Askeaton Fen Complex	ROI
IE0002280	Dunbeacon Shingle	ROI
IE0002281	Reen Point Shingle	ROI
IE0002283	Rutland Island and Sound	ROI
IE0002287	Lough Swilly	ROI
IE0002293	Carrowbaun, Newhall and Ballylee Turloughs	ROI
IE0002294	Cahermore Turlough	ROI
IE0002295	Ballinduff Turlough	ROI
IE0002296	Williamstown Turloughs	ROI
IE0002298	River Moy	ROI
IE0002299	River Boyne and River Blackwater	ROI
IE0002301	River Finn	ROI
IE0002303	Dunmuckrum Turloughs	ROI
IE0002306	Carlingford Shore	ROI
IE0002312	Slieve Bernagh Bog	ROI
IE0002313	Ballymore Fen	ROI
IE0002314	Old Domestic Buildings, Rylane	ROI
IE0002315	Glanlough Woods	ROI
IE0002316	Ratty River Cave	ROI
IE0002317	Cregg House Stables, Crusheen	ROI
IE0002318	Knockanira House	ROI
IE0002319	Kilkishen House	ROI
IE0002320	Kildun Souterrain	ROI
IE0002324	Glendine Wood	ROI
IE0002327	Belgica Mound Province	ROI
IE0002328	Hovland Mound Province	ROI
IE0002329	South-West Porcupine Bank	ROI
IE0002330	North-West Porcupine Bank	ROI
IE0002331	Mouds Bog	ROI
IE0002332	Coolrain Bog	ROI
IE0002333	Knockacoller Bog	ROI
IE0002336	Carn Park Bog	ROI
IE0002337	Crosswood Bog	ROI

Site Code	Site Name	ROI / NI
IE0002338	Drumalough Bog	ROI
IE0002339	Ballynamona Bog and Corkip Lough	ROI
IE0002340	Moneybeg and Clareisland Bogs	ROI
IE0002341	Ardagullion Bog	ROI
IE0002342	Mount Hevey Bog	ROI
IE0002343	Tullaheer Lough and Bog	ROI
IE0002346	Brown Bog	ROI
IE0002347	Camderry Bog	ROI
IE0002348	Clooneen Bog	ROI
IE0002349	Corbo Bog	ROI
IE0002350	Curraglehanagh Bog	ROI
IE0002351	Moanveanlagh Bog	ROI
IE0002352	Monivea Bog	ROI
IE0002353	Redwood Bog	ROI
IE0002354	Tullaghanrock Bog	ROI
IE0002356	Ardgraigue Bog	ROI
UK0016599	Ballynahone Bog	NI
UK0016603	Cuilcagh Mountain	NI
UK0016606	Garron Plateau	NI
UK0016607	Pettigoe Plateau	NI
UK0016608	Teal Lough	NI
UK0016609	Black Bog	NI
UK0016610	Garry Bog	NI
UK0016611	Fairy Water Bogs	NI
UK0016612	Murlough	NI
UK0016613	Magilligan	NI
UK0016614	Upper Lough Erne	NI
UK0016615	Eastern Mourne	NI
UK0016618	Strangford Lough	NI
UK0016619	Monawilkin	NI
UK0016620	Derryleckagh	NI
UK0016621	Magheraveely Marl Loughs	NI
UK0016622	Slieve Beagh	NI
UK0030045	Largalunny	NI
UK0030047	Lough Melvin	NI
UK0030055	Rathlin Island	NI
UK0030068	Fardrum and Roosky Turloughs	NI
UK0030083	Banagher Glen	NI
UK0030084	Bann Estuary	NI
UK0030089	Binevenagh	NI
UK0030097	Breen Wood	NI
UK0030110	Carn-Glenishane Pass	NI
UK0030116	Cladagh (Swanlinbar) River	NI
UK0030169	Hollymount	NI
UK0030180	Lecale Fens	NI
UK0030199	Main Valley Bogs	NI

Site Code	Site Name	ROI / NI
UK0030211	Moneygal Bog	NI
UK0030212	Moninea Bog	NI
UK0030214	Montiaghs Moss	NI
UK0030224	North Antrim Coast	NI
UK0030233	Owenkillew River	NI
UK0030236	Peatlands Park	NI
UK0030244	Rea`s Wood and Farr`s Bay	NI
UK0030268	Rostrevor Wood	NI
UK0030277	Slieve Gullion	NI
UK0030291	Turmennan	NI
UK0030296	Upper Ballinderry River	NI
UK0030300	West Fermanagh Scarplands	NI
UK0030303	Wolf Island Bog	NI
UK0030318	Aughnadarragh Lough	NI
UK0030319	Ballykilbeg	NI
UK0030320	River Foyle and Tributaries	NI
UK0030321	Cranny Bogs	NI
UK0030322	Curran Bog	NI
UK0030323	Dead Island Bog	NI
UK0030324	Deroran Bog	NI
UK0030325	Tonnagh Beg Bog	NI
UK0030326	Tully Bog	NI
UK0030360	River Roe and Tributaries	NI
UK0030361	River Faughan and Tributaries	NI
UK0030365	Red Bay	NI
UK0030383	Skerries and Causeway	NI
UK0030384	The Maidens	NI

Table 2: SPAs that were considered in the Appropriate Assessment Screening of the WSSP.

Site Code	Site Name	ROI / NI
800004002	Saltee Islands	ROI
800004003	Puffin Island	ROI
800004004	Inishkea Islands	ROI
800004005	Cliffs Of Moher	ROI
800004006	North Bull Island	ROI
800004007	Skelligs	ROI
800004008	Blasket Islands	ROI
800004009	Lady's Island Lake	ROI
800004013	Drumcliff Bay	ROI
800004014	Rockabill	ROI
800004015	Rogerstown	ROI
800004016	Baldoye Bay	ROI
800004019	The Raven	ROI
800004020	Ballyteigue Burrow	ROI
800004021	Old Head Of Kinsale	ROI
800004022	Ballycotton Bay	ROI
800004023	Ballymacoda Bay	ROI
800004024	South Dublin Bay And River Tolka Estuary	ROI
800004025	Malahide Estuary	ROI
800004026	Dundalk Bay	ROI
800004027	Tramore Back Strand	ROI
800004028	Blackwater Estuary	ROI
800004029	Castlemaine Harbour	ROI
800004030	Cork Harbour	ROI
800004031	Inner Galway Bay	ROI
800004032	Dungarvan Harbour	ROI
800004033	Bannow Bay	ROI
800004034	Trawbreaga Bay	ROI
800004035	Cummeen Strand	ROI
800004036	Killala Bay/Moy Estuary	ROI
800004037	Blacksod Bay/Broadhaven	ROI
800004039	Derryveagh And Glendowan Mountains SPA	ROI
800004040	Wicklow Mountains	ROI
800004041	Ballyallia Lough	ROI
800004042	Lough Corrib	ROI
800004043	Lough Derravaragh	ROI
800004044	Lough Ennell	ROI
800004045	Glen Lough	ROI
800004046	Lough Iron	ROI
800004047	Lough Owel	ROI
800004048	Lough Gara	ROI
800004049	Lough Oughter	ROI
800004050	Lough Arrow	ROI

Site Code	Site Name	ROI / NI
800004051	Lough Carra	ROI
800004052	Carrowmore Lake	ROI
800004056	Lough Cutra	ROI
800004057	Lough Derg (Donegal)	ROI
800004058	Lough Derg (Shannon)	ROI
800004060	Lough Fern	ROI
800004061	Lough Kinale And Derragh Lough	ROI
800004062	Lough Mask	ROI
800004063	Poulaphouca Reservoir	ROI
800004064	Lough Ree	ROI
800004065	Lough Sheelin	ROI
800004066	The Bull And The Cow Rocks	ROI
800004068	Inishmurray	ROI
800004069	Lambay Island	ROI
800004072	Stags Of Broad Haven	ROI
800004073	Tory Island SPA	ROI
800004074	Illanmaster	ROI
800004075	Lough Swilly	ROI
800004076	Wexford Harbour And Slobs	ROI
800004077	River Shannon And River Fergus Estuaries	ROI
800004078	Carlingford Lough	ROI
800004080	Boyne Estuary	ROI
800004081	Clonakilty Bay	ROI
800004082	Greers Isle	ROI
800004083	Inishbofin, Inishdoeey And Inishbeg SPA	ROI
800004084	Inishglora And Inishkeeragh	ROI
800004086	River Little Brosna Callows	ROI
800004087	Lough Foyle	ROI
800004089	Rahasane Turlough	ROI
800004090	Sheskinmore Lough	ROI
800004091	Stabannan-Braganstown	ROI
800004092	Tacumshin Lake	ROI
800004093	Termoncarragh Lake And Annagh Machair	ROI
800004094	Blackwater Callows	ROI
800004095	Kilcolman Bog	ROI
800004096	Middle Shannon Callows	ROI
800004097	River Suck Callows	ROI
800004098	Owenduff/Nephin Complex	ROI
800004100	Inishtrahull	ROI
800004107	Coole-Garryland	ROI
800004110	Lough Nillan Bog	ROI
800004111	Duvillaun Islands	ROI
800004113	Howth Head Coast	ROI
800004114	Illanonearaun	ROI

Site Code	Site Name	ROI / NI
800004115	Inishduff	ROI
800004116	Inishkeel	ROI
800004117	Ireland's Eye	ROI
800004118	Keeragh Islands	ROI
800004119	Loop Head	ROI
800004120	Rathlin O'birne Island	ROI
800004121	Roaninish	ROI
800004122	Skerries Islands	ROI
800004124	Sovereign Islands	ROI
800004125	Magharee Islands	ROI
800004129	Ballysadare Bay	ROI
800004132	Illancrone And Inishkeeragh	ROI
800004134	Lough Rea	ROI
800004135	Ardboline Island And Horse Island	ROI
800004136	Clare Island	ROI
800004137	Dovegrove Callows	ROI
800004139	Lough Croan Turlough	ROI
800004140	Four Roads Turlough	ROI
800004142	Cregganna Marsh	ROI
800004143	Cahore Marshes	ROI
800004144	High Island, Inishshark And Davillaun	ROI
800004145	Durnesh Lough	ROI
800004146	Malin Head SPA	ROI
800004148	Fanad Head SPA	ROI
800004149	Falcarragh To Meenlaragh SPA	ROI
800004150	West Donegal Coast	ROI
800004151	Donegal Bay	ROI
800004152	Inishmore	ROI
800004153	Dingle Peninsula	ROI
800004154	Iveragh Peninsula	ROI
800004155	Beara Peninsula	ROI
800004156	Sheep's Head To Toe Head	ROI
800004158	River Nanny Estuary And Shore -	ROI
800004159	Slyne Head To Ardmore Point Islands	ROI
800004160	Slieve Bloom Mountains	ROI
800004161	Stack's To Mullaghareirk Mountains	ROI
800004162	Mullaghanish To Musheramore Mountains	ROI
800004165	Slievefelim To Silvermines Mountains	ROI
800004167	Slieve Beagh	ROI
800004168	Slieve Aughty Mountains	ROI
800004170	Cruagh Island	ROI
800004172	Dalkey Islands	ROI
800004175	Deenish Island And Scariff Island	ROI
800004177	Bills Rocks	ROI

Site Code	Site Name	ROI / NI
800004181	Connemara Bog Complex	ROI
800004182	Mid Clare Coast	ROI
800004186	The Murrrough	ROI
800004187	Sligo/Leitrim Uplands	ROI
800004188	Tralee Bay Complex	ROI
800004189	Kerry Head	ROI
800004190	Galley Head To Duneen Point	ROI
800004191	Seven Heads	ROI
800004192	Helvick Head To Ballyquin	ROI
800004193	Mid-Waterford Coast	ROI
800004194	Horn Head To Fanad Head	ROI
800004212	Cross Lough (Killadoon)	ROI
800004219	Courtmacsherry Bay	ROI
800004220	Corofin Wetlands	ROI
800004221	Illaunnaon	ROI
800004227	Mullet Peninsula	ROI
800004228	Lough Conn And Lough Cullin	ROI
800004230	West Donegal Islands SPA	ROI
800004231	Inishbofin, Omey Island And Turbot Island SPA	ROI
800004232	River Boyne And River Blackwater SPA	ROI
800004233	River Nore SPA	ROI
800004234	Ballintemple And Ballygilgan SPA	ROI
800004235	Doogort Machair SPA	ROI
UK9020301	Antrim Hills	NI
UK9020101	Belfast Lough	NI
UK9020290	Belfast Lough Open Water	NI
UK9020161	Carlingford Lough	NI
UK9020291	Copeland Islands	NI
UK9020221	Killough Bay	NI
UK9020042	Larne Lough	NI
UK9020031	Lough Foyle	NI
UK9020091	Lough Neagh And Lough Beg	NI
UK9020271	Outer Ards	NI
UK9020051	Pettigoe Plateau	NI
UK9020011	Rathlin Island	NI
UK9020021	Sheep Island	NI
UK9020302	Slieve Beagh – Mullaghfad – Lisnaskea	NI
UK9020111	Strangford Lough	NI
UK9020071	Upper Lough Erne	NI

Appendix D

Potentially Sensitive SAC Interest Features

Table D.1 summarises SAC interest features for which abstraction or typical water-company point-source discharges (i.e. WwTW discharges; CSOs) are identified as pressures or threats in the most recent Article 17 report. The habitats and species which were identified in the WFD Annex IV protected areas report as sensitive to hydrological impacts or water pollution are also identified²⁶. Features where PWS abstractions or municipal sewage discharges are specifically noted are identified with a *.

Note that the information in Table D.1 is based on generic assessments and the actual sensitivity of the habitat or species to Irish Waters operations will be site specific. Note that the table does not include all interest features present in Ireland; if a feature is absent it is unlikely (based on available information) to be particularly sensitive to the typical effects of Irish Water's primary operations (abstraction, sewage treatment), although that obviously does not mean it is not potentially vulnerable to other aspects of Irish Water's work (e.g. pipeline construction).

Table D.1 Interest features for which abstractions or discharges could potentially be a pressure or threat

Feature	Pressure / Threat (Article 17)		Sensitive (WFD Annex IV Protected areas: Water dependant habitats and species)	
	Abstraction	Discharges	Abstraction	Discharges
Active raised bogs	Y		Y	Y
Alkaline fens	Y		Y	Y
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	Y		Y	Y
Annual vegetation of drift lines				
Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>)				
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)			Y	Y
Blanket bog (*active only)	Y		Y	Y
Bog woodland			Y	Y
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	Y		Y	Y
Coastal lagoons			Y	Y
Decalcified fixed dunes with <i>Empetrum nigrum</i>				

²⁶ Mayes, E., 2008. Water Framework Directive Annex IV Protected Areas: Water Dependent Habitats and Species.

http://www.wfdireland.ie/docs/27_HighStatusSites/WATER%20DEPENDENT%20HABITATS%20AND%20SPECIES%20GUIDANCE_Part1.doc

Feature	Pressure / Threat (Article 17)		Sensitive (WFD Annex IV Protected areas: Water dependant habitats and species)	
	Abstraction	Discharges	Abstraction	Discharges
Degraded raised bogs still capable of natural regeneration	Y		Y	Y
Depressions on peat substrates of the <i>Rhynchosporion</i>	Y		Y	Y
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salix arenariae</i>)	Y		Y	Y
Embryonic shifting dunes				
Estuaries				Y
Fixed coastal dunes with herbaceous vegetation (grey dunes)				
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.*	Y*	Y	Y	Y
Humid dune slacks	Y		Y	Y
Hydrophillic Tall Herb Fringe Communities			Y	Y
Large shallow inlets and bays			Y	Y
Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)				
Machairs (* in Ireland)	Y		Y	Y
Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)		Y		Y
Mediterranean salt meadows (<i>Juncetalia maritimi</i>)			Y	Y
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	Y		Y	Y
Mudflats and sandflats not covered by seawater at low tide				Y
Natural dystrophic lakes and ponds	Y	Y	Y	Y
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> -type vegetation	Y	Y	Y	Y
Northern Atlantic wet heaths with <i>Erica tetralix</i>	Y		Y	Y
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i> *	Y	Y*	Y	Y
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletea uniflorae</i>)*	Y	Y*	Y	Y
Perennial vegetation of stony banks				
Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Y		Y	Y
Reefs				Y
Rivers with muddy banks with <i>Chenopodion rubri</i> p.p. and <i>Bidention</i> p.p. vegetation			Y	Y
Salicornia and other annuals colonizing mud and sand		Y		Y
Sandbanks which are slightly covered by sea water all the time				Y
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)				
Spartina swards (<i>Spartinion maritimae</i>)				

Feature	Pressure / Threat (Article 17)		Sensitive (WFD Annex IV Protected areas: Water dependant habitats and species	
	Abstraction	Discharges	Abstraction	Discharges
Submerged or partly submerged sea caves				
Transition mires and quaking bogs	Y		Y	Y
Turloughs			Y	Y
Vegetated sea cliffs of the Atlantic and Baltic coasts		Y		
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation		Y	Y	Y
<i>Alosa fallax</i>			Y	Y
<i>Austropotamobius pallipes</i>			Y	Y
<i>Drepanocladus vernicosus</i>			Y	Y
<i>Euphydryas aurinia</i>			Y	
<i>Halichoerus grypus</i>				Y
<i>Lampetra fluviatilis</i>			Y	Y
<i>Lampetra planeri</i>			Y	Y
<i>Lutra lutra</i>			Y	Y
<i>Margaritifera durrovensis</i>	Y	Y	Y	Y
<i>Margaritifera margaritifera</i>	Y	Y	Y	Y
<i>Najas flexilis</i>	Y	Y	Y	Y
<i>Petalophyllum ralfsii</i>			Y	Y
<i>Petromyzon marinus</i>			Y	Y
<i>Phoca vitulina</i>				
<i>Salmo salar</i>	Y	Y	Y	Y
<i>Saxifraga hirculus</i>			Y	Y
<i>Tursiops truncatus</i>				
<i>Vertigo angustior</i>			Y	Y
<i>Vertigo geyeri</i>	Y		Y	Y
<i>Vertigo moulinsiana</i>	Y	Y	Y	Y

Appendix E

Potentially Sensitive SPA Species

A review of the Article 12 report was undertaken to identify which bird species could theoretically be impacted by abstractions and discharges. Table E.1 identifies those species where hydrological or pollution related threats/pressures have been identified. Please note that for some species no threats or pressures were available from the reports.

Table E.1 Interest features for which abstractions or discharges could potentially be a pressure or threat

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Accipiter nisus nisus (A633) - Breeding	No	Information not available from report	
Acrocephalus schoenobaenus (A295) - Breeding	No	Information not available from report	
Acrocephalus scirpaceus (A297) - Breeding	No	Information not available from report	
Actitis hypoleucos (A168) - Breeding	No	Information not available from report	
Aegithalos caudatus (A324) - Breeding	No	Information not available from report	
Alauda arvensis (A247) - Breeding	No	Information not available from report	
Alca torda (A200) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Alcedo atthis (A229) - Breeding	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); J02 - human induced changes in hydraulic conditions	L - low importance
Anas acuta (A054) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Anas clypeata (A056) - Breeding	No	Information not available from report	
Anas clypeata (A056) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution	L - low importance
Anas crecca crecca (A704) - Breeding	No	Information not available from report	
Anas crecca crecca (A704) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution; J02 - human induced changes in hydraulic conditions	L - low importance

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Anas penelope (A050) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Anas platyrhynchos platyrhynchos (A705) - Breeding	No	Information not available from report	
Anas platyrhynchos platyrhynchos (A705) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution; J02 - human induced changes in hydraulic conditions	L - low importance
Anas strepera strepera (A703) - Breeding	No	Information not available from report	
Anas strepera strepera (A703) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution; J02 - human induced changes in hydraulic conditions	M - medium importance; L - low importance
Anser albifrons flavirostris (A395) - Winter	Yes	H03 - Marine water pollution; H07 - Other forms of pollution	M - medium importance; L - low importance
Anser anser (A043) - Winter	Yes	H07 - Other forms of pollution	L - low importance
Anser anser (A043-X) - Breeding	No	Information not available from report	
Anthus petrosus (A666) - Breeding	No	Information not available from report	
Anthus pratensis (A257) - Breeding	No	Information not available from report	
Apus apus (A226) - Breeding	No	Information not available from report	
Aquila chrysaetos (A091) - Breeding	No	Information not available from report	
Ardea cinerea cinerea (A699) - Breeding	No	Information not available from report	
Ardea cinerea cinerea (A699) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish)	L - low importance
Arenaria interpres (A169) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Asio otus (A221) - Breeding	No	Information not available from report	
Aythya ferina (A059) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H07 - Other forms of pollution	M - medium importance; L - low importance
Aythya fuligula (A061) - Breeding	No	Information not available from report	
Aythya fuligula (A061) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H07 - Other forms of pollution	M - medium importance; L - low importance
Aythya marila (A062) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution	M - medium importance; L - low importance

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Branta bernicla hrota (A674-A) - Winter	Yes	G05 - Other human intrusions and disturbances ; H03 - Marine water pollution; H07 - Other forms of pollution; J03 - Other ecosystem modifications	L - low importance
Branta canadensis (A044-X) - Breeding	No	Information not available from report	
Branta leucopsis (A045-A) - Winter	Yes	No	
Bucephala clangula (A067) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; H07 - Other forms of pollution	M - medium importance; L - low importance
Buteo buteo (A087) - Breeding	No	Information not available from report	
Calidris alba (A144) - Winter	Yes	H03 - Marine water pollution	L - low importance
Calidris alpina (A149) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Calidris alpina schinzii (A466-A) - Breeding	Yes	No	
Calidris canutus (A143) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Calidris maritima maritima (A670-B) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Carduelis cabaret (A681) - Breeding	No	Information not available from report	
Carduelis cannabina (A366) - Breeding	No	Information not available from report	
Carduelis carduelis (A364) - Breeding	No	Information not available from report	
Carduelis chloris (A745) - Breeding	No	Information not available from report	
Carduelis flavirostris (A367) - Breeding	No	Information not available from report	
Carduelis spinus (A365) - Breeding	No	Information not available from report	
Catharacta skua (A175) - Breeding	No	Information not available from report	
Cephus grylle (A202) - Breeding	No	Information not available from report	
Certhia familiaris (A334) - Breeding	No	Information not available from report	
Charadrius hiaticula (A137) - Breeding	No	Information not available from report	
Charadrius hiaticula (A137) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Cinclus cinclus (A264) - Breeding	No	Information not available from report	
Circus cyaneus (A082) - Breeding	Yes	J03 - Other ecosystem modifications	M - medium importance

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Circus cyaneus (A082) - Winter	Yes	J03 - Other ecosystem modifications	L - low importance
Clangula hyemalis (A064) - Winter	No	Information not available from report	
Columba livia (A206) - Breeding	No	Information not available from report	
Columba oenas (A207) - Breeding	No	Information not available from report	
Columba palumbus palumbus (A687) - Breeding	No	Information not available from report	
Corvus corax (A350) - Breeding	No	Information not available from report	
Corvus corone cornix (A742) - Breeding	No	Information not available from report	
Corvus frugilegus (A348) - Breeding	No	Information not available from report	
Corvus monedula (A347) - Breeding	No	Information not available from report	
Coturnix coturnix (A113) - Breeding	No	Information not available from report	
Crex crex (A122) - Breeding	Yes	No	
Cuculus canorus (A212) - Breeding	No	Information not available from report	
Cygnus columbianus bewickii (A037) - Winter	Yes	H07 - Other forms of pollution	L - low importance
Cygnus cygnus (A038-B) - Winter	Yes	H07 - Other forms of pollution	L - low importance
Cygnus olor (A036) - Breeding	No	Information not available from report	
Cygnus olor (A036) - Winter	No	Information not available from report	
Delichon urbicum (A738) - Breeding	No	Information not available from report	
Dendrocopos major all others (A658) - Breeding	No	Information not available from report	
Egretta garzetta garzetta (A697) - Breeding	No	Information not available from report	
Egretta garzetta garzetta (A697) - Winter	No	Information not available from report	
Emberiza citrinella (A376) - Breeding	No	Information not available from report	
Emberiza schoeniclus (A381) - Breeding	No	Information not available from report	
Erithacus rubecula (A269) - Breeding	No	Information not available from report	
Falco columbarius (A098) - Breeding	Yes	No	
Falco peregrinus peregrinus (A708) - Breeding	Yes	J03 - Other ecosystem modifications	L - low importance
Falco tinnunculus (A096) - Breeding	No	Information not available from report	

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Fratercula arctica (A204) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Fringilla coelebs all others (A657) - Breeding	No	Information not available from report	
Fulica atra atra (A723) - Breeding	No	Information not available from report	
Fulica atra atra (A723) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish)	M - medium importance
Fulmarus glacialis (A009) - Breeding	Yes	No	
Gallinago gallinago (A153) - Breeding	No	Information not available from report	
Gallinula chloropus chloropus (A721) - Breeding	No	Information not available from report	
Garrulus glandarius (A342) - Breeding	No	Information not available from report	
Gavia arctica arctica (A689) - Winter	No	Information not available from report	
Gavia immer (A003) - Winter	Yes	H03 - Marine water pollution	L - low importance
Gavia stellata (A001-A) - Breeding	Yes	J02 - human induced changes in hydraulic conditions; J02.06 - Water abstractions from surface waters	M - medium importance; L - low importance
Gavia stellata (A001-A) - Winter	Yes	H03 - Marine water pollution	L - low importance
Haematopus ostralegus (A130) - Breeding	No	Information not available from report	
Haematopus ostralegus (A130) - Winter	Yes	J02 - human induced changes in hydraulic conditions; H03 - Marine water pollution	L - low importance
Hirundo rustica (A251) - Breeding	No	Information not available from report	
Hydrobates pelagicus pelagicus (A694) - Breeding	Yes	No	
Lagopus lagopus hibernicus (A463) - Breeding	No	Information not available from report	
Larus argentatus (A184) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Larus argentatus (A184) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Larus canus (A182) - Breeding	Yes	No	
Larus canus (A182) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Larus fuscus graellsii (A664) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Larus fuscus graellsii (A664) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Larus marinus (A187) - Breeding	No	Information not available from report	

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Larus melanocephalus (A176) - Breeding	No	Information not available from report	
Larus minutus (A177) - Winter	No	Information not available from report	
Larus ridibundus (A179) - Breeding	Yes	No	
Larus ridibundus (A179) - Winter	Yes	H03 - Marine water pollution; J03 - Other ecosystem modifications	L - low importance
Limosa lapponica (A157) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Limosa limosa islandica (A616) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Locustella naevia (A290) - Breeding	No	Information not available from report	
Loxia curvirostra (A369) - Breeding	No	Information not available from report	
Melanitta fusca fusca (A685-B) - Winter	No	Information not available from report	
Melanitta nigra nigra (A706) - Breeding	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish)	H - high importance
Melanitta nigra nigra (A706) - Winter	Yes	H03 - Marine water pollution	L - low importance
Mergellus albellus (A767-B) - Winter	No	Information not available from report	
Mergus merganser merganser (A654-B) - Breeding	No	Information not available from report	
Mergus serrator (A069) - Breeding	No	Information not available from report	
Mergus serrator (A069) - Winter	Yes	H03 - Marine water pollution	L - low importance
Miliaria calandra (A746) - Breeding	No	Information not available from report	
Milvus milvus (A074) - Breeding	No	Information not available from report	
Morus bassanus (A016) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Motacilla alba (A262) - Breeding	No	Information not available from report	
Motacilla cinerea (A261) - Breeding	No	Information not available from report	
Muscicapa striata (A319) - Breeding	No	Information not available from report	
Numenius arquata arquata (A768) - Breeding	No	Information not available from report	
Numenius arquata arquata (A768) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Oceanodroma leucorhoa (A015) - Breeding	Yes	No	

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Oenanthe oenanthe (A277) - Breeding	No	Information not available from report	
Parus ater all others (A656) - Breeding	No	Information not available from report	
Parus caeruleus (A329) - Breeding	No	Information not available from report	
Parus major (A330) - Breeding	No	Information not available from report	
Passer domesticus (A620) - Breeding	No	Information not available from report	
Passer montanus (A356) - Breeding	No	Information not available from report	
Perdix perdix all others (A644) - Breeding	No	Information not available from report	
Phalacrocorax aristotelis aristotelis (A684) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Phalacrocorax carbo carbo (A683) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Phalacrocorax carbo carbo (A683) - Winter	Yes	H03 - Marine water pollution	L - low importance
Phasianus colchicus (A115-X) - Breeding	No	Information not available from report	
Philomachus pugnax (A151) - Winter	No	Information not available from report	
Phoenicurus phoenicurus (A274) - Breeding	No	Information not available from report	
Phylloscopus collybita (A315) - Breeding	No	Information not available from report	
Phylloscopus sibilatrix (A314) - Breeding	No	Information not available from report	
Phylloscopus trochilus (A316) - Breeding	No	Information not available from report	
Pica pica (A343) - Breeding	No	Information not available from report	
Pluvialis apricaria (A140) - Breeding	Yes	No	
Pluvialis apricaria (A140) - Winter	Yes	H03 - Marine water pollution	L - low importance
Pluvialis squatarola (A141) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Podiceps auritus auritus (A642-A) - Winter	No	Information not available from report	
Podiceps cristatus cristatus (A691) - Breeding	No	Information not available from report	
Podiceps cristatus cristatus (A691) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution	L - low importance
Prunella modularis (A266) - Breeding	No	Information not available from report	
Puffinus puffinus (A013) - Breeding	Yes	H03 - Marine water pollution	M - medium importance

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Pyrrhocorax pyrrhocorax (A346) - Breeding	Yes	No	
Pyrrhula pyrrhula (A372) - Breeding	No	Information not available from report	
Rallus aquaticus aquaticus (A718) - Breeding	No	Information not available from report	
Regulus regulus (A317) - Breeding	No	Information not available from report	
Riparia riparia (A249) - Breeding	No	Information not available from report	
Rissa tridactyla (A188) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Saxicola rubetra (A275) - Breeding	No	Information not available from report	
Saxicola torquatus (A276) - Breeding	No	Information not available from report	
Scolopax rusticola (A155) - Breeding	No	Information not available from report	
Somateria mollissima (A063) - Breeding	No	Information not available from report	
Somateria mollissima (A063) - Winter	Yes	H03 - Marine water pollution	L - low importance
Sterna albifrons albifrons (A631-A) - Breeding	Yes	No	
Sterna dougallii dougallii (A733) - Breeding	Yes	No	
Sterna dougallii dougallii (A733) - Passage	Yes	No	
Sterna hirundo (A193) - Breeding	Yes	No	
Sterna hirundo (A193) - Passage	Yes	No	
Sterna paradisaea (A194) - Breeding	Yes	No	
Sterna paradisaea (A194) - Passage	Yes	No	
Sterna sandvicensis (A191) - Breeding	Yes	No	
Streptopelia decaocto (A209) - Breeding	No	Information not available from report	
Sturnus vulgaris (A351) - Breeding	No	Information not available from report	
Sylvia atricapilla (A311) - Breeding	No	Information not available from report	
Sylvia borin (A310) - Breeding	No	Information not available from report	
Sylvia communis (A309) - Breeding	No	Information not available from report	
Tachybaptus ruficollis ruficollis (A690) - Breeding	No	Information not available from report	

Bird Species	Pressures and Threats listed in Annex 12 report	Pollution and hydrological related pressures and threats	Impact
Tachybaptus ruficollis ruficollis (A690) - Winter	Yes	H01 - Pollution to surface waters (limnic & terrestrial, marine & brackish); H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions	M - medium importance; L - low importance
Tadorna tadorna (A048) - Breeding	No	Information not available from report	
Tadorna tadorna (A048) - Winter	Yes	H03 - Marine water pollution	L - low importance
Tringa erythropus (A161) - Winter	No	Information not available from report	
Tringa nebularia (A164) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions	L - low importance
Tringa totanus (A162) - Breeding	No	Information not available from report	
Tringa totanus (A162) - Winter	Yes	H03 - Marine water pollution; J02 - human induced changes in hydraulic conditions; J03 - Other ecosystem modifications	L - low importance
Troglodytes troglodytes all others (A676) - Breeding	No	Information not available from report	
Turdus merula (A283) - Breeding	No	Information not available from report	
Turdus philomelos (A285) - Breeding	No	Information not available from report	
Turdus torquatus (A282) - Breeding	No	Information not available from report	
Turdus viscivorus (A287) - Breeding	No	Information not available from report	
Tyto alba (A213) - Breeding	No	Information not available from report	
Uria aalge albionis (A662) - Breeding	Yes	H03 - Marine water pollution	M - medium importance
Vanellus vanellus (A142) - Breeding	No	Information not available from report	
Vanellus vanellus (A142) - Winter	Yes	H03 - Marine water pollution	L - low importance