Strategic Environmental Assessment for the Water Framework Directive River Basin Management Plans and Programmes of Measures -North Eastern RBD

Environmental Report











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NON-TECHNICAL SUMMARY

INTRODUCTION

This Environmental Report has been prepared as part of the Strategic Environmental Assessment (SEA) of the River Basin Management Plan and Programme of Measures (hereafter referred to as the Plan and POM) for the North Eastern River Basin District (RBD) in accordance with national and EU legislation. SEA is a systematic method of considering the likely significant environmental effects of a Plan or Programme by integrating environmental factors into the development of the Plan and related decision-making.

The purpose of this Environmental Report is to: a) inform the development of the Plan; b) identify describe and evaluate the likely significant effects of the Plan and its reasonable alternatives; and c) provide an early opportunity for the statutory authorities and the public to offer views through consultation.

METHODOLOGY

This Environmental Report contains the findings of the assessment of the likely significant effects on the environment, of implementing the proposed draft Plan and POM. It reflects the requirements of the SEA Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment and also the transposed regulations in Northern Ireland (S.R. 280/2004). The stages followed in the SEA are summarised in **Figure 1** below.



Figure 1 Summary of SEA stages

Integration of the SEA and draft Plan and POM was achieved through close involvement of relevant team members in all stages of the project, including SEA scoping; review of the existing situation; and public consultation. The SEA and Plan Teams also participated in a number of workshops in relation to developing the: SEA assessment methodology; alternatives to be considered in the SEA; SEA objectives, targets and indicators; and mitigation measures and monitoring strategies. The development of the River Basin Management Plan, including the Programme of Measures, was progressed in consultation with the *River Basin Management Plan and Programme of Measures Strategic Environmental Assessment Steering Group*.

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SCOPING THE RELEVANT ENVIRONMENTAL ASPECTS

The objective of scoping is to identify key issues of concern that should be addressed in the environmental assessment of the Plan and POM so that they can be considered in appropriate detail. Scoping also helps determine the boundaries of the assessment in terms of geographical extent and the time horizon for the assessment. **Figure 2** outlines the various elements that contribute to the scope of the SEA.

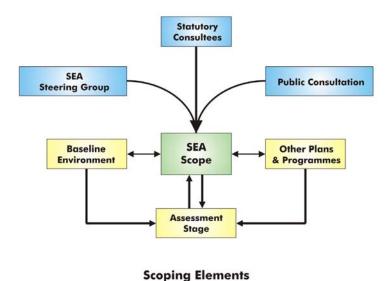


Figure 2 Overview of the Scoping Process

Consultation was carried out with the statutory consultee (NIEA) and with the public and other stakeholders. Taking into consideration feedback from the consultee, a broad assessment of the potential for the Plan to influence the environment was carried out. All of the environmental topics listed in the SEA Directive have been scoped in for the assessment of the Plan. These are:

- Biodiversity, Flora and Fauna;
- Population;
- Human Health;
- Soil;
- Water;
- Landscape;
- Air;
- Climatic Factors;

- Material Assets; and
- Cultural, Architectural and Archaeological Heritage.

The North Eastern River Basin Management Plan and POM is a regional plan for the North Eastern RBD and as such the assessment has been limited geographically to activities occurring within the functional area of the Plan. The Plan and POM will cover the period from 2009 up to 2015, with an interim review after three years. In line with the SEA Directive, short, medium and long-term impacts have been considered during the assessment. As the Plan is on a regional scale, the majority of the data relates to overall national and regional performance. Based on the requirements of the legislation and guidance, the following information is provided in the Environmental Report.

Table 1 Contents of the Environmental Report

| Requirement of SEA Directive (Article 5(1), Annex 1) | Section of Environmental Report |
|--|--|
| An outline of the contents and main objectives of the plan or programme, or modification to a plan or programme, and relationship with other relevant plans or programmes; | Chapter 3: Description of the Plan |
| The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme, or modification to a plan or programme, | Chapter 5: Baseline Environment |
| The environmental characteristics of areas likely to be significantly affected | Chapter 5: Baseline Environment |
| Any existing environmental problems which are relevant to the plan or programme, or modification to a plan or programme, including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or the Habitats Directive | Chapter 5: Baseline Environment |
| The environmental protection objectives, established at international, European Union or national level, which are relevant to the plan or programme, or modification to a plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation | Chapter 6: Review of Relevant Plans, Programmes and Policies |
| The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors | Chapter 9: Assessment |
| The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme, or modification to a plan or programme | Chapter 10: Mitigation and Monitoring |
| An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information | Chapter 2: Methodology Chapter 7: Strategic Environmental Objectives, Targets and Indicators Chapter 8: Alternatives |
| A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan or programme, or modification to a plan or programme | Chapter 10: Mitigation and Monitoring |
| A non-technical summary of the information provided under the above headings | Non-Technical Summary |

Habitats Directive Assessment Consultation

In addition to this SEA, there is a requirement under the EU Habitats Directive assess whether the Plan has the potential to impact negatively on a Natura 2000 site. These sites include areas designated for the protection and conservation of habitats and of wild flora and fauna and include Special Protection Areas and Special Areas of Conservation. The Habitats Directive Assessment (also known as Appropriate Assessment) has been carried out in conjunction with both the SEA and the Plan making processes. Consultation on methodology of approach has taken place with the Northern Ireland Environment Agency (NIEA) as the competent authority in Northern Ireland.

DESCRIPTION OF THE PLAN

The Water Framework Directive (WFD) (2000/60/EC) came into force in December 2000 and establishes a framework for community action in the field of water policy and for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

The purpose of the WFD is to maintain the "high and good status" of waters where it exists, prevent deterioration in existing status of waters and to achieve or restore at least "good status" in relation to all waters by 2015. The mechanism to achieve this under the WFD is through the adoption and implementation of River Basin Management Plans (RBMPs) and Programmes of Measures (POMs) for each of the eight identified RBDs (see **Figure 3**).

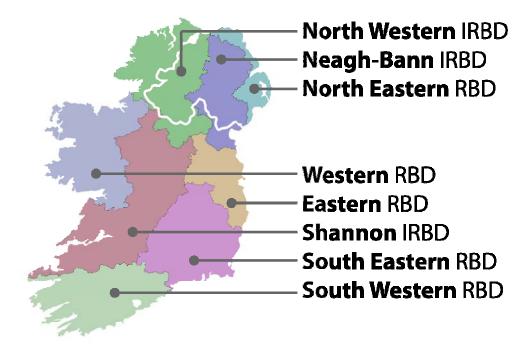


Figure 3 River Basin Management areas of Ireland

The North Eastern RBD is flanked by the Antrim Plateau and Glens of Antrim to the north and the Mourne Mountains, which includes Slieve Donard, the highest peak in Northern Ireland, to the south.

The Plan outlines measures to tackle key water pressures in the District. Some issues of concern in the NERBD for which measures are proposed in the draft Plan include: spread of invasive alien species; pressure on fisheries; presence of heavily modified and artificial water bodies; point and diffuse pollution; agriculture; unsewered properties; forestry; physical modifications; and abstraction. The overall objectives of the Plan are based on the objectives of the WFD and can be summarised as follows:

- Enable waters supporting protected areas to achieve their stricter status standards;
- Prevent deterioration, and in particular maintain high or good status (surface water);
- Improve waters where appropriate to achieve at least good standards (surface water);
- Progressively reduce chemical pollution (surface water);
- Limit Pollution Inputs and prevent deterioration (groundwater);
- Improve chemical quality and quantity where appropriate to achieve good status (groundwater); and
- Reverse increasing pollution trends (groundwater).

REVIEW OF RELEVANT PLANS, POLICIES AND PROGRAMMES

A review of the plans, policies and programmes relevant to the Plan was carried out. The review focussed primarily on National, European and International plans and programmes. In reviewing other plans, the following questions were asked:

- Does the Plan contribute to the fulfilment of objectives and goals set in other Plans?
- To what degree are the goals and objectives set in other plans and programmes impacted by the Plan?

The findings of the review helped define the objectives for the SEA and informed the assessment of alternative options. Some of the key Plans, Programmes and Policies include;

- The Kyoto Protocol;
- The EIA Directive;
- The EU Habitats and Birds Directives;
- The Groundwater Directive (2006/118/EC); and
- The EU Floods Directive (2007/60/EC).

THE BASELINE ENVIRONMENT

As this strategic environmental assessment deals with a plan for the North Eastern RBD, the baseline data is focused at the RBD level.

The first State of the Environment Report for Northern Ireland (2008) identified four major environmental issues facing Northern Ireland. These are climate change, economic growth, rural land use and water quality. All of these are highly relevant to the WFD and the current river basin management planning process. **Table 2** sets out existing environmental pressures in the NERBD.

 Table 2
 Baseline Environment and Existing Environmental Pressures

| Aspect | Existing Environmental Pressures |
|----------------------------|---|
| Biodiversity, Flora and | Throughout the island of Ireland there has been a decline in many of the native species through habitat loss, competition, development and agriculture. |
| Fauna | Wastewater discharges, runoff from agriculture, leachate from landfills and contaminated sites and nutrient input from forestry can all have detrimental effects on water quality resulting in subsequent impacts to biodiversity. |
| | Invasive non-native plant and animal species are one of the greatest threats to biodiversity in Northern Ireland. |
| Population and Human | The economy on the island of Ireland as a whole has experienced unprecedented economic growth since the early 1990's. |
| Health | New individual houses and housing clusters, reliant on septic tanks, threaten water quality. |
| | Additional homes mean the spread of urban areas and an increase in rural housing, with the associated threat of more water pollution. |
| | Pressure from abstractions can reduce flow in springs and lower water levels in lakes, wetlands and wells. |
| Water | The main pressures on surface and groundwater quality within the RBD are point and diffuse, physical modifications, climate change and other local issues. Point and diffuse sources include; wastewater and industrial discharges, landfills, quarries, mines and contaminated sites, agriculture, wastewater from unsewered properties, forestry; and discharge of dangerous substances. |
| Air and Climate | Currently there are no significant concerns with regard to air quality at the River Basin District level. With regard to climate, inputs of greenhouses gasses from water management activities in the River Basin District, which require the use of fossil fuels, add to the carbon dioxide emissions produced on the island. |
| Cultural Heritage | Development of water-related infrastructure, in addition to development resulting from economic growth and increasing population, is placing pressure on sites or features of architectural, archaeological or cultural heritage interest. |
| Landscape and Visual | Existing pressures on landscape and visual resources as a result of water management activities are limited and are primarily related to impacts to sensitive views and landscapes resulting from the siting of development, including water related infrastructure, without sensitivity to these resources. |
| Material Assets | Increased development including residential and industrial expansion continues to put pressure on existing water sources with regards to quantity as well as on the treatment facilities used to treat both drinking water and wastewater. In addition, existing water quality issues are resulting in pressures on economic shellfish and aquaculture activities along with fisheries used for recreational purposes. Some of the physical modifications identified as material assets, such as dams and weirs, may also be resulting in pressures on fisheries used for recreational and commercial purposes. |

Soils and Land Use

Precipitation changes, predicted as one of the global warming impacts on the island of Ireland, could have serious implications for slope stability and landslides and their resultant impacts on water management activities.

Eroded soil washed into rivers during heavy rainfall contains an increased nutrient content, which can damage the balance of nutrient poor, aquatic ecosystems by shifting their species composition, supporting more nutrient-loving species. This can lead to the eutrophication of rivers and lakes.

As discussed previously, extraction activities, when mismanaged, are resulting in pressures on water quality. In particular, peat cutting can be damaging to vegetation, hydrology and landscape.

Alternately, the extractability of mineral, sand and gravel resources is also being curtailed and/or reduced by the encroachment of residential development into rural areas and the conflicts between people and the impacts associated with these activities, e.g. noise, traffic.

In accordance with the SEA Directive, the inter-relationship between the SEA environmental topics must be taken into account. **Table 3** highlights the key inter-relationships identified in this SEA. Of particular note is the primary interrelationship between water (quality and quantity) and biodiversity, flora and fauna, soils, human health and population. Flora and fauna rely directly on the aquatic environment as a habitat but the terrestrial environment can also be strongly impacted by the aquatic environment. Water quality is also of particular importance with regard to human health as it provides a source of drinking water and it yields foodstuffs (e.g. fish and shellfish). Water is also used for leisure and recreational purposes, providing a material asset both for local populations and as part of the tourism economy.

Table 3 Potential Inter-Relationships Between SEA Topics

| | Biodiversity Flora, Fauna | Population / Human Health | Soil | Water | Air | Climatic Factors | Material Assets | Cultural Heritage |
|------------------------------|------------------------------|------------------------------|----------|----------|-----|---------------------|--------------------|----------------------|
| Landscape | х | √ | √ | √ | Х | √ | √ | √ |
| Cultural Heritage | x | V | √ | V | √ | V | √ | |
| Material Assets | √ | √ | √ | √ | Х | √ | | |
| Climatic Factors | V | V | √ | V | √ | | | |
| Air | √ | √ | V | √ | | _ | | |
| Water | √ | √ | √ | | _ | | | |
| Soil | √ | √ | | _ | | | | |
| Population / Human Health | √ | | | | | | | |

In the absence of the Plan, water resources in the District would continue to be managed in an uncoordinated manner, thus the cumulative and synergistic impacts on water of increasing population figures across the District would remain unknown. The pressures identified in the *Significant Water*

Management Issues report would continue to impact on water quality and quantity, perpetuating the indirect impacts associated with these on biodiversity, flora and fauna, population and human health. Development may continue to take place in a dispersed manner with increasing numbers of one-off houses, though some control would be provided by existing controls in plans such as the Planning Policy Statements 1 to 18 and the Regional Development Strategy, placing further pressure on water and wastewater services in those areas, leading to adverse impacts on human health and population from poor water quality, in the form of possible cryptosporidium outbreaks, e-coli contamination and deterioration of bathing water quality. As a result of manmade greenhouse gas emissions, climate change is predicted to occur in the future regardless of action. The potential impacts from sea level increases, increased flooding, summer droughts, etc., will impact on water management. Some cultural heritage features would continue to be at risk from water pollution. However, planned changes to the morphology of certain waterbodies as part of the Plan would not occur, potentially avoiding interference with water dependent features, such as mills and weirs.

ENVIRONMENTAL OBJECTIVES, TARGETS AND INDICATORS

There are essentially three types of Objectives considered as part of this SEA. The first relates to the Objectives of the WFD and the RBMP (see Chapter 3). The second relates to wider Environmental Objectives, i.e. environmental protection objectives at national and European level (see Chapter 6), and finally there are the Strategic Environmental Objectives, which were devised to test the environmental effects of the Plan / POM.

The **Strategic Environmental Objectives** are separate to the Plan objectives and provide a statement of what is intended from an environmental perspective, giving a desired direction of change. The **Strategic Environmental** Objectives reflect the existing environmental concerns in Northern Ireland relevant to water management and take account of the scoping and consultation feedback. The selected objectives for this SEA are listed below in **Box 1**.

Box 1: Strategic Objectives Selected

Objective 1: Prevent damage to terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species. (Biodiversity, Flora and Fauna)

Objective 2: Contribute to sustainable development. (Population)

Objective 3: Protect and reduce risk to human health in undertaking water management activities. (Human Health)

Objective 4: Avoid damage to the function and quality of the soil resource in the River Basin District. (Soil)

Objective 5: Prevent deterioration of the status of water bodies with regard to quality, quantity and improve water body status for rivers, lakes, transitional and coastal waters and groundwaters to at least good status, as appropriate to the WFD. (Water)

Objective 6: Minimise emissions to air as a result of Plan activities. (Air Quality)

Objective 7: Minimise contribution to climate change by emission of greenhouse gasses associated with Plan implementation. (Climatic Factors)

Objective 8: Maintain level of protection provided by existing morphological infrastructure, e.g. flood defences, coastal barriers, groynes, etc. (Material Assets 1)

Objective 9: Provide new and upgrade existing water management infrastructure to protect human health and ecological status of water bodies. (Material Assets 2)

Objective 10: Support economic activities within the District without conflicting with the objectives of the WFD. (Material Assets 3)

Objective 11: Protect water as an economic resource. (Material Assets 4)

Objective 12: Avoid damage to cultural heritage resources in the River Basin District. (Cultural Heritage)

Objective 13: Avoid damage to designated landscapes in the River Basin District. (Landscape)

The overall purpose of environmental indicators in the SEA is to provide a way of measuring the environmental effect of implementing the Plan. Environmental indicators are also used to track the progress in achieving the targets set in the SEA as well as the Plan itself. The proposed indicators for this SEA have been selected bearing in mind the availability of data and the feasibility of making direct links between any changes in the environment and the implementation of the Plan / POM.

Targets were considered over the duration of the baseline data collection and assessment, and throughout the consultation process, in order to meet the Strategic Environmental Objectives as well as the objectives of the Plan. In each case, any target that is set must be attributable to the implementation of the Plan / POM. The targets and indicators associated with each SEA Objective are presented in **Chapter 7** of the report.

ALTERNATIVES

Each of the River Basin Management Plans must include a set of management measures, entitled the Programme of Measures, aimed at achieving the objective of good status by 2015 under the WFD. Article 11 of the WFD sets out the types of measures that <u>must be</u> included in the Plan. Where application of these **required measures** will not be sufficient to achieve the default objective, **additional measures**, or actions, need to be identified and considered. The types of measures considered are at the discretion of the Member State; however, a non-exhaustive list of possible additional measures is provided for guidance in Annex VI Part B of the WFD.

In Northern Ireland, the range of possible additional measures was identified by a series of technical studies. In addition, the range of additional measures available for implementation in the Plan has been informed by the early stages of the SEA process as well as the Article 6 Assessment carried out under the EU Habitats Directive (92/43/EEC).

The additional measures being considered for the Plan address the pressures described in the 2007 SWMI document prepared for the RBD and listed in **Chapter 5**. The additional measures have been grouped by pressure and have been categorised broadly as measures that will either:

- a) reduce the inputs of contaminants;
- b) replace or upgrade infrastructure; or
- c) **relocate** the pressure to an alternative and less sensitive location.

The additional measures represent a range of options which can be selected for the Plan, with the option of choosing one, all or a combination of these, if appropriate.

ASSESSMENT

The following scenarios have been assessed in this SEA:

- (i) Business as Usual;
- (ii) Business as Usual <u>plus</u> Other Required Measures; and
- (iii) Individual Additional Measures.

The WFD reinforces the requirement to implement the provisions of existing environmental and water protection directives. The implementation of the 11 Existing Directives as specified in the WFD is considered the **Business as Usual** scenario. While many of the measures required under these 11 existing directives are expected to result in improved water quality, some of the actions arising from their implementation do not lend themselves to formal environmental assessment. The types of measures required have been grouped into themes (e.g. education and awareness, monitoring and

identification) and an explanation provided as to whether or not assessment of these in the context of the Strategic Environmental Objectives is practicable at this time. For those that could be assessed, the assessment has been qualitative.

A second scenario is also assessed which includes implementation of the 11 Existing Directives <u>plus</u> implementation of further water protection measures listed under Article 11(3) of the WFD. This is termed the **Business as Usual plus Other Required Measures** scenario. The requirements are based on broad themes, many of which are directly tackled by the additional individual measures developed by each RBD. However, the broad themes have been assessed in the SEA as they will involve substantially new actions not currently covered by the business as usual scenario alone. As they relate to themes rather than specific actions the assessment is qualitative.

The third scenario assessed relates to **Individual Additional Measures**. These measures are required where the implementation of the 11 Directives or the other water protection measures listed in Article 11(3) would not be sufficient to achieve 'good status' by 2015. Each Additional Measure has been assessed against each of the Strategic Environmental Objectives in terms of how it contributes to achieving the objective with an assessment rating assigned for the purpose of comparison. The assessment carried out was primarily qualitative in nature, with some based on expert judgement. This qualitative assessment compares the likely impacts against the Strategic Environmental Objectives to see which Additional Measures meet the Strategic Environmental Objectives and which, if any, contradict these.

A *Do Nothing* scenario i.e. no change in current practices, has not been assessed as part of the SEA. It is considered that the 11 Existing Directives will have to be implemented regardless of the Plan and POM; therefore, a do nothing scenario is not realistic.

The approach used for assessing the draft Plan Options was an objective led assessment. For the purposes of this assessment plus (+) indicates a potential positive impact, minus (-) indicates a potential negative impact, plus/minus (+/-) indicates that both positive and negative impacts are likely or that in the absence of further detail the impact is unclear, and a neutral or no impact is indicated by 0.

At the broad level, implementation of the Plan is expected to bring environmental improvements, since it tackles specific pressures on water quality. However, there are some cases where negative impacts may arise in the wider environment. The SEA has identified such areas and where mitigation of impacts can be achieved including ensuring that monitoring and regulation is adequate, and encouraging an integrated approach to water management in Northern Ireland. In addition, the Habitats Directive Assessment results have been integrated into the SEA and where mitigation has been proposed under the Habitats Directive Assessment this has also been brought forward into the SEA. The assessment of Additional Measures is summarised in **Table 4**.

Table 4 Summary Assessment Table

| | Overall Impact | Mitigation Measures Recommended |
|---|----------------|------------------------------------|
| Existing 11 Directives and Other Article 11(3) Measures | +/- | √ |
| Industrial sources | + | √ |
| Dangerous Substances | + | √ |
| Physical Modifications | +/- | √ |
| Other Sources | + | √ |
| Abstractions | + | √ |
| Agriculture | + | √ |
| Unsewered Properties | + / - | √ |
| Wastewater | + | V |
| Forestry | + | V |

MITIGATION AND MONITORING

Article 10 of the SEA Directive requires that monitoring be carried out to identify at an early stage any unforeseen adverse effects due to implementation of the Plan, in order to take remedial action where adverse effects are identified through monitoring.

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the Plan. Where possible, indicators have been chosen based on the availability of the necessary information and the degree to which the data will allow the target to be linked directly with the implementation of the Plan.

The proposed monitoring programme will be carried out as implementation of the Plan progresses and, depending on monitoring results, adjustments to targets and indicators may be made to ensure the continued effectiveness of the monitoring programme in the interest of optimal environmental protection.

A total of 84 mitigation measures have been recommended, including a number of measures identified during the Appropriate Assessment.

NEXT STEPS

There is still some important work to complete before this Plan is adopted. This will include some further technical and scientific planning work as well as recording, assessing and, where appropriate, taking on board comments received during consultations on the draft Plan / POMs and SEA. The next step in the SEA and Plan/ POM process will be a six-month consultation period. During this time comment on the findings of the Environmental Report, the Habitats Directive Assessment and the content of the draft Plan may be submitted for consideration.

TABLE OF CONTENTS

| NON- | TECHN | ICAL SUMMARY | I |
|------|-------|---|------|
| 1 | INTR | ODUCTION | 1 |
| | 1.1 | Background | 1 |
| | 1.2 | North Eastern River Basin District | 2 |
| | 1.3 | STRATEGIC ENVIRONMENTAL ASSESSMENT | 2 |
| | 1.4 | RESPONSIBLE AUTHORITIES FOR THE NORTH EASTERN RBD | 3 |
| | 1.5 | STUDY TEAM | 3 |
| 2 | MET | HODOLOGY | 4 |
| | 2.1 | Introduction | 4 |
| | 2.2 | GUIDANCE | 4 |
| | 2.3 | KEY STEPS IN STRATEGIC ENVIRONMENTAL ASSESSMENT | 6 |
| | 2.4 | APPROPRIATE ASSESSMENT | . 11 |
| | 2.5 | DIFFICULTIES AND DATA GAPS | . 11 |
| 3 | DES | CRIPTION OF THE PLAN | . 12 |
| | 3.1 | RIVER BASIN PLANNING AND THE NORTH EASTERN RBD | . 12 |
| | 3.2 | CURRENT WATER MANAGEMENT SITUATION IN THE NERBD | . 14 |
| | 3.3 | STEPS TO RIVER BASIN MANAGEMENT PLANNING | . 16 |
| | 3.4 | RISK ASSESSMENT OF WATER BODIES IN THE NORTH EASTERN RBD | . 17 |
| 4 | CON | SULTATION | . 22 |
| | 4.1 | CONSULTATION DURING SCOPING STAGE | . 22 |
| | 4.2 | CONSULTATION DURING ENVIRONMENTAL ASSESSMENT STAGE | . 23 |
| | 4.3 | INTEGRATION OF RIVER BASIN MANAGEMENT PLANNING AND STRATEGIC ENVIRONMENTA | L |
| | | Assessment | . 24 |
| | 4.4 | PROPOSED CONSULTATION ON DRAFT PLAN, POM AND ENVIRONMENTAL REPORT | . 26 |
| | 4.5 | HABITATS DIRECTIVE ASSESSMENT CONSULTATION | . 26 |
| 5 | BASI | ELINE ENVIRONMENT | . 27 |
| | 5.1 | Introduction | . 27 |
| | 5.2 | CURRENT STATE OF THE ENVIRONMENT | . 27 |
| | 5.3 | BASELINE AND RELEVANT ENVIRONMENTAL PROBLEMS | . 28 |
| | 5.4 | EVOLUTION OF THE ENVIRONMENT IN THE ABSENCE OF THE PLAN | . 52 |
| 6 | REVI | EW OF RELEVANT POLICIES, PLANS AND PROGRAMMES | . 68 |
| 7 | STRA | ATEGIC ENVIRONMENTAL OBJECTIVES, TARGETS AND INDICATORS | 84 |
| | 7.1 | Introduction | . 84 |
| | 7.2 | DEVELOPMENT OF STRATEGIC ENVIRONMENTAL OBJECTIVES, TARGETS AND INDICATORS | 84 |
| 8 | ALTE | ERNATIVES | . 96 |
| | 8.1 | REQUIRED MEASURES | . 97 |

| | 8.2 | Additional Measures | 107 |
|----|-------|---|-----|
| | 8.3 | ALTERNATIVES CONSIDERED FOR SEA | 130 |
| 9 | ASSES | SSMENT | 131 |
| | 9.1 | BUSINESS AS USUAL SCENARIO | 131 |
| | 9.2 | BUSINESS AND USUAL PLUS OTHER REQUIRED MEASURES | 132 |
| | 9.3 | ALTERNATIVES: ADDITIONAL MEASURES | 136 |
| 10 | MITIG | ATION AND MONITORING | 145 |
| | 10.1 | Introduction | 145 |
| | 10.2 | Sources of Information for Monitoring | 145 |
| | 10.3 | MITIGATION (RECOMMENDATIONS FROM THE SEA TO FEED INTO THE PLAN) | 151 |
| | 10.4 | SUMMARY OF MONITORING AND MITIGATION | 155 |
| 11 | NEXT | STEPS | 156 |
| 12 | ACRO | NYMS | 157 |
| 13 | GLOS | SARY | 159 |
| 14 | REFE | RENCES | 166 |
| | | | |

LIST OF FIGURES

| Figure 1.1 | Overview of SEA Process | 2 |
|-------------|--|----|
| Figure 1.2 | Organisational Structure for the River Basin Districts | 3 |
| Figure 2.1 | Overview of the Scoping Process | 6 |
| Figure 3.1 | River Basin Management areas of Ireland | 12 |
| Figure 3.2 | North Eastern RBD | 13 |
| Figure 4.1 | Building Blocks of the River Basin Management Plan and POM | 25 |
| Figure 5.1 | European Designated Sites | 54 |
| Figure 5.2 | National Designated Sites | 55 |
| Figure 5.3 | Main Populated Areas | 56 |
| Figure 5.4 | River, Lake, Coastal and Transitional Waterbodies | 57 |
| Figure 5.5 | Aquifer Distribution | 58 |
| Figure 5.6 | River, Lake, Coastal and Transitional Water Status | 59 |
| Figure 5.7a | Groundwater Status – Chemical | 60 |
| Figure 5.7b | Groundwater Status – Quantitative | 61 |
| Figure 5.8 | Cultural Heritage within 10 km of Rivers | 62 |
| Figure 5.9 | Impoundments, Abstractions, WTW and WWTW | 63 |
| Figure 5.10 | Ports, Harbours, Fisheries and Aquaculture | 64 |
| Figure 5.11 | Groundwater Vulnerability | 65 |
| Figure 5.12 | Mineral Locations | 66 |
| | | |

| Figure 5.13 | Corine Landcover | 67 |
|-------------|---|----|
| Figure 7.1 | Matrix of SEA Objective Internal Compatibility | 88 |
| Figure 8.1 | Process to Determine what Measures are Required | 96 |

LIST OF TABLES

| Table 2.1 | Scope of the SEA | 7 |
|-----------|--|---------|
| Table 2.2 | Key Elements of the Environmental Report | 9 |
| Table 2.3 | SEA Environmental Assessment | 10 |
| Table 3.1 | Steps to RBMP and POM development | 16 |
| Table 3.2 | Waterbody Risk Categories | 17 |
| Table 3.3 | River Water Bodies Risk Assessment Summary | 18 |
| Table 3.4 | Lake Water Bodies Risk Assessment Summary | 18 |
| Table 3.5 | Transitional Water Bodies Risk Assessment Summary | 19 |
| Table 3.6 | Coastal Water Bodies Risk Assessment Summary | 19 |
| Table 3.7 | Groundwater Bodies Risk Assessment Summary | 19 |
| Table 4.1 | Consultees in the SEA Scoping Process | 22 |
| Table 4.2 | Key Issues Raised at SEA and Plan Integration Workshops | 24 |
| Table 4.3 | Consultation Requirements under the WFD and SEA Directive | 26 |
| Table 5.1 | Number and Types of Designated Sites in the District | 28 |
| Table 5.2 | Census Populations 1991 and 2001 for District Council Areas, part or all of wh | ich lie |
| | within NERBD | 31 |
| Table 5.3 | Surface Water Status in the North Eastern District* | 34 |
| Table 5.4 | Groundwater Status in the NERBD* | 35 |
| Table 5.5 | Areas of the NERBD designated under the Register of Protected Areas | 35 |
| Table 5.6 | Potential Inter-Relationships Between SEA Topics | 51 |
| Table 6.1 | Key Conventions, Legislation, Plans, Policies and Programmes - International | 69 |
| Table 6.2 | Key Legislation, Plans, Policies and Programmes – European Union | 70 |
| Table 6.3 | Key Legislation, Plans, Policies and Programmes - Northern Ireland | 75 |
| Table 7.1 | Strategic Environmental Objectives | 85 |
| Table 7.2 | Compatibility of Strategic Plan Objectives and Strategic Environmental Objective | s 89 |
| Table 7.3 | Strategic Environmental Objectives, Targets and Indicators | 90 |
| Table 8.1 | Required Measures Contained in Existing Water Protection Directives as listed | Annex |
| | VI Part A of the WFD | 98 |
| Table 8.2 | Other Required Measures as listed in Article 11(3) of the WFD | 102 |
| Table 8.3 | Additional Measures for Point and Diffuse Sources: Wastewater (NI: Collection | n and |
| | Treatment of Sewage / Urban Development) | 110 |

| Table 8.4 | Additional Measures for Point and Diffuse Sources: Industrial Discharges (NI: Industry and Other Businesses) |
|------------|--|
| Table 8.5 | Additional Measures for Point and Diffuse Sources: Other Sources (landfills, quarries, |
| | mines & contaminated lands) (NI: Industry and Other Businesses / Waste) 114 |
| Table 8.6 | Additional Measures Point and Diffuse Sources: Usage and Discharge of Dangerous |
| 145.0 0.0 | Substances (NI: Included under key sectors under Pollution) |
| Table 8.7 | Additional Measures for Point and Diffuse Sources: Agriculture |
| Table 8.8 | Additional Measures for Point and Diffuse Sources: Wastewater from Unsewered |
| 14510 0.0 | Properties (NI: Collection and Treatment of Sewage) |
| Table 8.9 | Additional Measures for Point and Diffuse Sources: Forestry |
| Table 8.10 | Additional Measures for Physical Modifications (NI: Freshwater Morphology/ Marine |
| 14510 0.10 | Morphology) |
| Table 8.11 | Additional Measures for Abstractions (NI: Abstraction and Flow Regulation) 125 |
| Table 8.12 | Additional Measures for Urban Development (Ire: Wastewater / Industrial Discharges) |
| | |
| Table 8.13 | Additional Measures for Local Issues |
| Table 9.1 | Assessment of Measures under the Existing 11 Directives and the Other Required |
| | Article 11(3) Measures |
| Table 9.2 | Summary of Secondary Effects |
| Table 9.3 | Assessment: Wastewater (NI: Collection and Treatment of Sewage / Urban |
| | Development) |
| Table 9.4 | Assessment: Industrial Discharges (NI: Industry and Other Businesses) |
| Table 9.5 | Assessment: Other Point Sources (landfills, quarries, mines and contaminated lands) |
| | (NI: Industry and Other Businesses / Waste)140 |
| Table 9.6 | Assessment: Usage and Discharge of Dangerous Substances (NI: Included in key |
| | sectors under Pollution)140 |
| Table 9.7 | Assessment: Agriculture |
| Table 9.8 | Assessment: Wastewater from Unsewered Properties (NI: Collection and Treatment |
| | of Sewage) |
| Table 9.9 | Assessment: Forestry |
| Table 9.10 | Assessment: Physical Modifications (NI: Freshwater Morphology/ Marine |
| | Morphology)144 |
| Table 9.11 | Assessment: Abstractions (NI: Abstraction and Flow Regulation) |
| Table 10.1 | Environmental Monitoring Programme |
| Table 10.2 | Mitigation Measures |
| Table 11.1 | Remaining Steps in the RBMP and SEA processes in Northern Ireland |

1 INTRODUCTION

This Environmental Report has been prepared as part of the Strategic Environmental Assessment of the River Basin Management Plan, and the associated Programme of Measures (POM), for the North Eastern River Basin District in accordance with national and EU legislation. The purpose of this Environmental Report is to: a) inform the development of the Plan and POM; b) identify describe and evaluate the likely significant effects of the Plan and POM and its reasonable alternatives; and c) provide an early opportunity for the statutory authorities and the public to offer views on any aspect of this Environmental Report, through consultation.

1.1 BACKGROUND

The Water Framework Directive (WFD) (2000/60/EC) came into force in December 2000 and establishes a framework for community action in the field of water policy and for the protection of inland surface waters, transitional waters, coastal waters and groundwater. The WFD is a wideranging and ambitious piece of European environmental legislation, which provides for a new, strengthened system for the protection and improvement of water quality and dependent ecosystems. The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments). Cross-border basins (i.e. those covering the territory of more than one Member State) are assigned to an international RBD (IRBD). All of the river basins on the island of Ireland have been distributed within eight RBDs. Four of the eight RBDs are wholly contained within Ireland, one is wholly within Northern Ireland and the remaining three are international RBDs, i.e. occur within Ireland and Northern Ireland.

The WFD was transposed into law in Northern Ireland by the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003 (S.R. 544 of 2003). The purpose of the WFD is to maintain the "good and high status" of waters where it exists, prevent any deterioration in the existing status of waters and to restore at least "good status" in relation to all waters by 2015. The mechanism by which this is to be achieved under the WFD is through the adoption and implementation of River Basin Management Plans (RBMPs) and Programmes of Measures (POMs) for each of the identified RBDs.

The overall objective of the Directive is to bring about the effective co-ordination of water environment policy and regulation across Europe in order to achieve the following, as laid out in Article 1:

- Prevent further deterioration and protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;
- Promote sustainable water use based on a long-term protection of available water resources;
- Enhance protection and improve the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority

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substances and the cessation or phasing-out of discharges, emission and losses of the priority hazardous substances;

- Ensure the progressive reduction of pollution of groundwater and prevent its further pollution;
 and
- Contribute to mitigating the effects of floods and droughts.

1.2 NORTH EASTERN RIVER BASIN DISTRICT

The North Eastern district is the smallest in the island of Ireland, lying entirely within Northern Ireland. It has a land area of just over 3,000 km² and a further 1000 km² of marine waters. It takes in large parts of Counties Antrim, Down and a small portion of County Londonderry/ Derry. The district is flanked by the Antrim Plateau and Glens of Antrim to the north and the Mourne Mountains, which includes Slieve Donard, the highest peak in Northern Ireland, to the south. The principal river systems are the Lagan (on which Belfast is situated), Bush and the Quoile. Smaller basins include those draining the Glens of Antrim and the County Down coastline, including the Ards peninsula. The main lakes within the district are Lough Mourne and the Clea lakes as well as Silent Valley, which is a major public water supply reservoir. Marine waters account for just over 1000 km² – the district contains most of Northern Ireland's coastline. Belfast Lough and Strangford Lough are the largest sea inlets in the district. Coastal waters of the North Channel include the surrounds of Rathlin Island, the Maidens and the Copelands.

1.3 STRATEGIC ENVIRONMENTAL ASSESSMENT

Strategic Environmental Assessment (SEA) is a process for evaluating, at the earliest appropriate stage, the environmental effects of plans or programmes before they are adopted. It also gives the public and other interested parties an opportunity to comment and to be kept informed of decisions and how they were made. An early consideration of environmental concerns in the planning process creates an opportunity for environmental factors to be considered explicitly alongside other factors such as social, technical or economic aspects.

The European Directive (2001/42/EC) on the Assessment of the Effects of Certain Plans and Programmes on the Environment (the SEA Directive), was transposed into national legislation in Northern Ireland under a single piece of legislation, the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 (S.R. 280/2004). **Figure 1.1** shows an overview of the SEA Process.

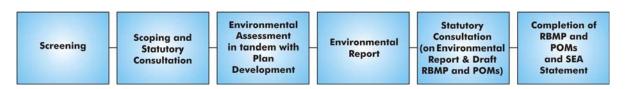


Figure 1.1 Overview of SEA Process

1.4 RESPONSIBLE AUTHORITIES FOR THE NORTH EASTERN RBD

This SEA is being carried out on behalf of the responsible authority for the North Eastern River Basin District, the Northern Ireland Environment Agency (NIEA).

1.5 STUDY TEAM

The study team for the North Eastern RBD comprises RPS, an environmental and engineering consultancy, working with an SEA Steering Group comprised of representatives from the following organisations:

- Northern Ireland Environment Agency;
- Department of the Environment, Heritage and Local Government (Ireland);
- Environmental Protection Agency (Ireland);
- Department of Agriculture, Fisheries and Food (Ireland);
- North South Share Project; and
- Coordinators from each of the River Basin Districts.

These representatives are in turn participants in a number of other RBD related Steering / Working Groups and Advisory Councils within the eight river basin districts, providing an important link between the SEA Team and the River Basin Management Plan Teams. **Figure 1.2** outlines the main organisational structure for the RBDs and places the SEA project team in context.

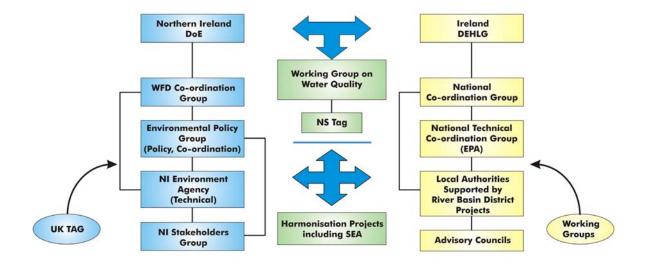


Figure 1.2 Organisational Structure for the River Basin Districts

2 METHODOLOGY

2.1 INTRODUCTION

The SEA Directive requires that certain Plans and Programmes, which are likely to have a significant impact on the environment, be subject to the SEA process. The SEA process is broadly comprised of the following steps:

| SEA Step / Stage | Purpose | Status |
|--------------------------|---|--|
| Screening | 9 | |
| | Plan/Programme is required. | The Screening Document entitled The Water Framework Directive, Assessment, Participation and Protected Areas: What are the Relationships? is available to download from the EPA website. |
| Scoping | Consultation with the defined statutory bodies on the scope and level of detail to be considered in the assessment. | Completed, late 2007 to mid 2008. The Final Scoping Document is available on the public download section of the NERBD website. |
| Environmental Assessment | Assessment of the likely significant impacts on the environment as a result of the Plan or Programme culminating in the production of an Environmental Report. | Completed, December 2008. |
| Consultation | Consultation on the draft Plan/Programme and associated Environmental Report. | This will take place January 2009 to June 2009. |
| SEA Statement | Identification of how environmental considerations and consultation have been integrated into the Final Plan/Programme culminating in the production of an SEA Statement. | To be published with Final Plan in late 2009. |

2.2 GUIDANCE

The Environmental Report contains the findings of the assessment of the likely significant effects on the environment resulting from implementation of the proposed RBMP and POM. It reflects the requirements of the SEA Directive (2001/42/EC) on the assessment of the effects of certain plans and programmes on the environment and also the transposed regulations in Northern Ireland (S.R. 280/2004).

The following sources of guidance have been used during the overall SEA process and preparation of the Environmental Report.

2.2.1 Northern Ireland

Strategic Environmental Assessment DRAFT Practical Guidance for Practitioners on How to Take Account of Air. June 2008. Scotland & Northern Ireland Forum for Environmental Research.

Strategic Environmental Assessment DRAFT Practical Guidance for Practitioners on How to Take Account of Soil. June 2008. Scotland & Northern Ireland Forum for Environmental Research.

Strategic Environmental Assessment DRAFT Practical Guidance for Practitioners on How to Take Account of Water. June 2008. Scotland & Northern Ireland Forum for Environmental Research.

A Practical Guide to the Strategic Environmental Assessment Directive. September 2005. Office of the Deputy Prime Minister.

Strategic Environmental Assessment. Services and Standards for Responsible Authorities. Environment and Heritage Service.

2.2.2 Other

Strategic Environmental Assessment (SEA) Checklist - Consultation Draft. January 2008. Environmental Protection Agency.

Strategic Environmental Assessment Toolkit (Version 1). September 2006. Scottish Executive.

Implementation of SEA Directive (2001/42/EC). Assessment of Certain Plans and Programmes on the Environment. Guidelines for Regional Planning Authorities. November 2004. Department of Environment, Heritage and Local Government.

Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners. June 2004. Countryside Council for Wales, English Nature, the Environment Agency and the RSPB.

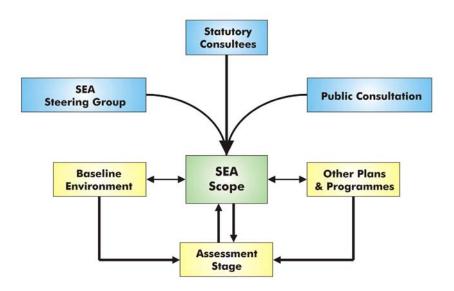
Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland. Synthesis Report. 2003. Environmental Protection Agency.

Guidelines on SEA. Department of Communications, Energy and Natural Resources. Available at: http://www.dcmnr.gov.ie/Marine/Environmental+Assessment/Environmental+Assessment.htm

2.3 KEY STEPS IN STRATEGIC ENVIRONMENTAL ASSESSMENT

2.3.1 SCOPING

The objective of scoping is to identify key issues of concern that should be addressed in the environmental assessment of the Plan and POM so that they can be considered in appropriate detail. Scoping also helps determine the boundaries of the assessment in terms of geographical extent and the time horizon for the assessment. **Figure 2.1** outlines the various elements that contribute to the scope of the SEA.



Scoping Elements

Figure 2.1 Overview of the Scoping Process

Scoping for the each of the SEAs was carried out in a coordinated manner for all eight RBMPs and their associated POMs between September 2007 and July 2008. In line with the SEA Directive, specific "environmental authorities" (statutory consultees) were consulted on the scope and level of detail of the information to be included in the Environmental Report. For the North Eastern RBMP and POM, the relevant statutory consultee is the Northern Ireland Environment Agency (NIEA) (formerly the Environment and Heritage Service).

Scoping for the SEA was carried out through a series of consultations with the statutory environmental authority based on an initial draft Scoping Report. A further draft was placed on public display in February 2008 and following amendments a final version was placed on the RBD website in

September 2008 (<u>www.nerbd.com</u>). Further details on consultation (dates, comments received, etc) can be found in **Chapter 4**.

2.3.1.1 DEFINING THE SCOPE

The following table provides a summary of the scope of the SEA.

Table 2.1 Scope of the SEA

| Geographic Scope | The North Eastern RBMP and POM is a regional plan for the North Eastern RBD (see Figure 3.2) and as such the assessment has been limited geographically to activities occurring within the functional area of the Plan. While recognition will be given within the Plan to the issue of water management in the adjacent RBDs, no separate assessment has been undertaken of these areas in this SEA. A separate SEA will be carried out for each of the seven remaining (I)RBDs. | | |
|----------------------------------|--|---|--|
| Temporal Scope | The RBMP and POM will cover the period from 2009 up to 2015, with an interim review after three years. In line with the SEA Directive, short, medium and long-term impacts must be considered during the assessment. However, it is considered that short-term assessment may not be very constructive as implementation of the RBMP, and the associated POM, will take time to show effect; therefore, the results of such an assessment are likely to be similar to a 'business as usual' scenario for the short-term. As such, assessments have been made for 2015 (as a medium term horizon) and 2030 (as a long term horizon), which is beyond the end of the third RBMP cycle. | | |
| Level of Detail of the Plan | The level of detail of the Environmental Report is determined by the content and level of detail of the Plan and POM. As the Plan is on a regional scale, the majority of the data relates to overall national and regional performance. The Plan delivers over-arching policy recommendations - including the general type of infrastructure required for water management - that to a large extent are implemented on a practical basis by bodies such as government agencies and local authorities. | | |
| Level of Detail of Assessment | This exercise is based on a broader judgement as to whether effects would be better assessed under lower level plans and/or programmes. This SEA, for example, does not examine site-specific impacts due to development of water infrastructure, since that is outside the scope of this regional level plan. | | |
| | As portions of the Plan and POM will be implemented within other regional or local plans, or through infrastructure projects, the local environmental concerns related to these may be examined through subsequent SEAs on these plans or Environmental Impact Assessment (EIA) at the project level. | | |
| Assessment Parameters | Cumulative / synergistic and secondary, permanent and temporary effects have been assessed. Medium and long-term impacts were also assessed. | | |
| Scoping of SEA Environmental | All of the environmental topics listed in the SEA Directive have been scoped in for the assessment of the RBMP and the associated POM. These are: | | |
| Topics | Biodiversity, Flora and Fauna | Air | |
| | Population | Climatic Factors | |
| | Human Health | Material Assets | |
| | Soil | Cultural, Architectural and Archaeological Heritage | |
| | | | |

2.3.1.2 Climate Change

Although not expressly referenced in the WFD, the evolution of the RBMPs and POMs has considered the implications of climate in terms of characterisation of baseline conditions, identification of pressures on waterbodies and in the development of the POMs for achievement of water quality objectives under the WFD.

The SEA Directive does reference climate as an environmental issue to be addressed in the assessment of the Plan. The SEA has considered climatic factors by considering first if climate change can impact on the identified pressure (e.g. abstractions) and if so whether the measure proposed in the RBMP and POMs could be compromised in the future as a result of climate change. In addition, the SEA has also considered how the measures proposed could contribute to climate change through generation and emission of greenhouse gases.

2.3.1.3 Flooding

The broad purpose of the WFD is to protect ecosystems, prevent pollution and promote sustainable water use with a strong focus on water quality and the health of aquatic ecosystems. The WFD represents one arm of water management; however, there are other elements which the EU is tackling in parallel, with one such element being flooding. The frequency and intensity of flood events in Ireland and Europe generally has increased in the recent past and it is predicted that this situation will continue into the future. In response to this the EU has developed a directive on the assessment and management of flood risk ("Floods Directive"). The purpose of the Floods Directive is "to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community".

There is obviously considerable potential for overlap between these two Directives and it is intended that the Floods Directive will be closely linked with the WFD in terms of implementation and administration, e.g. EU Commission has indicated that the Floods Directive will be focussed at the RBD level to ensure compatibility between these two pieces of legislation. In addition, the WFD is already linked with the Floods Directive through one of its key objectives to mitigate the effects of floods and drought.

In response to the key objectives of the WFD and the link to the Floods Directive, the RBMP and POM will address flooding through measures to reduce the risk of flood related impacts on water quality and ecosystem health, such as from accidental pollution incidents as a result of floods. However, it will not address specific measures to combat or reduce flooding from a socio-economic perspective. This will be addressed under Flood Management Plans as part of the implementation of the Floods Directive.

It is likely that during the second round of RBMP drafting, when the Floods Directive is in force in Member States, the coherence of the two Directives and their resultant Plans and measures can be tested and adjustment made, where necessary.

2.3.2 ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT

2.3.2.1 Contents of the Environmental Report

Based on the legislation and guidance, the Environmental Report must include the information outlined in **Table 2.2**.

Table 2.2 Key Elements of the Environmental Report

| Requirement of SEA Directive (Article 5(1), Annex 1) | Section of Environmental Report | |
|--|---|--|
| An outline of the contents and main objectives of the plan or programme, or modification to a plan or programme, and relationship with other relevant plans or programmes; | Chapter 3: Description of the Plan | |
| The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme, or modification to a plan or programme, | Chapter 5: Baseline Environment | |
| The environmental characteristics of areas likely to be significantly affected | Chapter 5: Baseline Environment | |
| Any existing environmental problems which are relevant to the plan or programme, or modification to a plan or programme, including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or the Habitats Directive | Chapter 5: Baseline Environment | |
| The environmental protection objectives, established at international, European Union or national level, which are relevant to the plan or programme, or modification to a plan or programme, and the way those objectives and any environmental considerations have been taken into account during its preparation | Chapter 6: Review of Relevant Plans, Programmes and Policies | |
| The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors | Chapter 9: Assessment | |
| The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme, or modification to a plan or programme | Chapter 10: Mitigation and Monitoring | |
| | Chapter 2: Methodology | |
| An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information | Chapter 7: Strategic Environmental Objectives, Targets and Indicators | |
| | Chapter 8: Alternatives | |
| A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan or programme, or modification to a plan or programme Chamber of the significant of the plan or programme, or modification to a plan or programme | | |
| A non-technical summary of the information provided under the above headings | Non-Technical Summary | |

2.3.2.2 Environmental Assessment

The environmental assessment includes a combination of qualitative assessment and expert judgement. Quantitative assessment was not possible at the level of detail currently presented in the draft Plan / POMs; however, it is recognised that additional detail may be developed in the future as part of the RBMP / POM planning process. **Table 2.3** outlines the type of assessment has been carried out.

Table 2.3 SEA Environmental Assessment

| Environmental Receptors | Is it Quantifiable? |
|---|---|
| Biodiversity, Flora and Fauna | Quantitative assessment may be possible, e.g. % loss of habitat, number of EU designated sites impacted, if sufficient detail is available from the draft Plan / POMs. |
| Human Health / Population | Health impacts would primarily be secondary via emissions to air, water, soil, etc. There is no quantitative baseline data that could be usefully examined vis-à-vis Plan policies. However reference to emissions under the heading <i>Air Quality</i> may be useful. |
| Soil / Geology | Quantitative assessment may be possible, e.g. area of contaminated land to be addressed, if sufficient detail is available from the draft Plan / POMs. |
| Water | Quantitative assessment may be possible, e.g. volumes extracted, if sufficient detail available from the draft Plan / POMs. |
| Air / Climate | Relevant issues relate to odour from WWTP / WWTW, emissions from digesters / incinerators and transport related emissions. Quantitative assessment may be possible, e.g. changes in energy use in the context of increased / improved water and wastewater treatment, if sufficient detail is available from the draft Plan / POMs. |
| Material Assets | Quantitative assessment may be possible, e.g. number of bridges, dams affected, if sufficient detail is available from the draft Plan / POMs. |
| Cultural, Architectural and Archaeological Heritage | Quantitative assessment may be possible, e.g. number of monuments and listed buildings near or in water bodies, if sufficient detail available from the draft Plan / POMs. |
| Landscape | By its nature assessment of landscape and visual impacts is subjective. In addition, without specific information on the location and character of potential infrastructural projects, there is no obvious way of examining alternatives quantitatively. |

2.3.3 SEA STATEMENT

The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, i.e. the views of consultees and the recommendations of the Environmental Report, have been taken into account in the adopted North Eastern River Basin

Management Plan and Programme of Measures. The SEA Statement illustrates how decisions were taken, making the process more transparent.

The SEA Statement for the North Eastern River Basin Management Plan and Programme of Measures will be compiled after the statutory consultation on the draft RBMP and associated POMs and Environmental Report has been completed.

2.4 APPROPRIATE ASSESSMENT

The Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora) obliges member states to designate Special Areas of Conservation (SACs) to protect and conserve habitats and species of importance in a European Union context. Article 6 is one of the most important articles of the Habitats Directive in determining the relationship between conservation and site use. Article 6(3) requires that "Any plan or project not directly connected with or necessary to the conservation of a site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

An Appropriate Assessment of the RBMP and POM was carried out in parallel with the SEA process, with the findings of the Appropriate Assessment used to guide the development of the alternatives to considered as part of the SEA.

2.5 DIFFICULTIES AND DATA GAPS

The following difficulties and data gaps were encountered:

- Poor boundaries / administrative overlap for some data sets;
- Lack of quantitative data to same degree of detail for topic areas other than those which are water-related;
- Some information not compiled by the relevant agencies (e.g. biodiversity, cultural heritage);
- Lack of digitised data in some topic areas (e.g. landscape);
- Quantitative assessment made very difficult due to the very strategic level of the measures proposed for incorporation in the Programme of Measures; and
- Not all of the proposed monitoring measures are currently being gathered and reported on at a national level.

3 DESCRIPTION OF THE PLAN

3.1 RIVER BASIN PLANNING AND THE NORTH EASTERN RBD

As stated in **Section 1, Introduction,** the purpose of the WFD is to maintain the "high and good status" of waters where it exists, prevent deterioration in existing status of waters and to achieve or restore at least "good status" in relation to all waters by 2015. The mechanism by which this is to be achieved under the WFD is through the adoption and implementation of River Basin Management Plans (RBMPs) and Programmes of Measures (POMs) for each of the eight identified RBDs (see **Figure 3.1**).

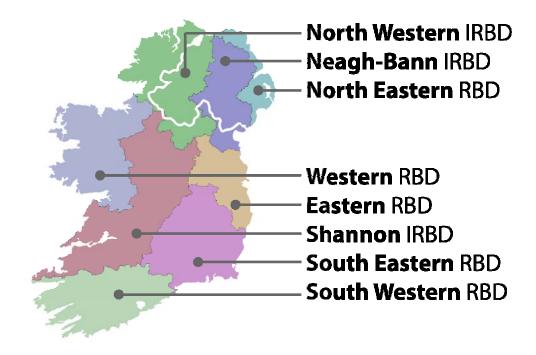


Figure 3.1 River Basin Management areas of Ireland

The North Eastern RBD is flanked by the Antrim Plateau and Glens of Antrim to the north and the Mourne Mountains, which includes Slieve Donard, the highest peak in Northern Ireland, to the south. The geographic scope of the North Eastern RBD is shown in **Figure 3.2**.

Over 0.7 million people live in the district which includes the most densely populated region of Northern Ireland, the Belfast Metropolitan Area and surrounding commuter areas including Lisburn, Newtownabbey, Bangor and Newtownards. Larne, Downpatrick and Newcastle are the main urban centres outside of the Belfast area. Most of the main urban areas are located beside rivers or on the coast. In rural areas, many people live in small villages or single dwellings.

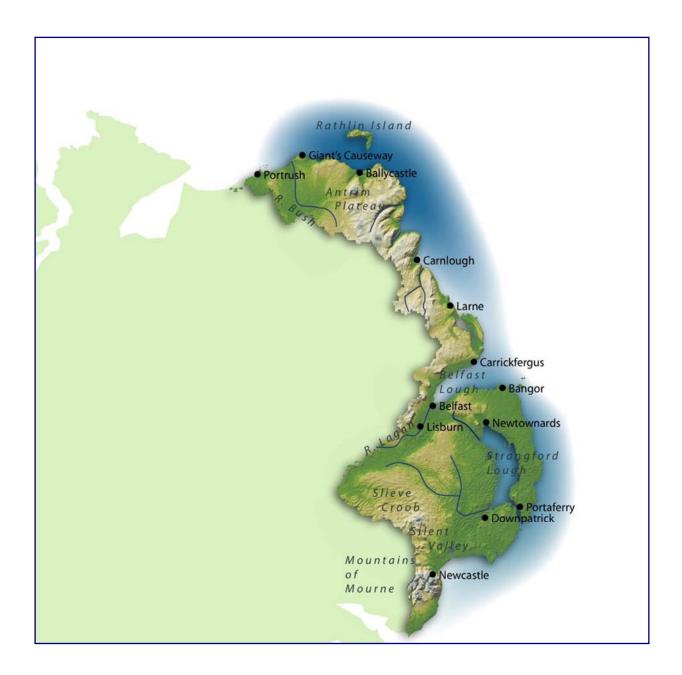


Figure 3.2 North Eastern RBD

In the North Eastern RBD, agriculture is an important activity, using about 55% of the land. Agricultural activities vary within the North Eastern district, with sheep farming focussed in the Glens of Antrim and grassland, tillage and horticulture in County Down. There are many natural beauty spots that attract tourists: some areas within the district are popular holiday destinations, these include the Antrim Plateau and Glens of Antrim, the Giant's Causeway, Stangford Lough and the Mountains of Mourne.

In addition, some areas of the RBD contain rare and vulnerable habitats and wildlife. These areas include parts of Strangford Lough, the Mournes, Belfast Lough, Groomsport, Silent Valley and Larne Lough.

3.2 CURRENT WATER MANAGEMENT SITUATION IN THE NERBD

In Northern Ireland, 99% of the drinking water supply is provided by Northern Ireland Water (formerly Water Service), which also has responsibility for the promotion of sustainable development of public water supply. Protection of drinking water sources is the joint responsibility of Northern Ireland Water, Department of Regional Development (DRD), Northern Ireland Environment Agency (NIEA) and the Forest Service. NIEA issue licenses for abstractions of water for hydroelectric schemes. NIEA consult externally with Northern Ireland Water, Loughs Agency, DoE Planning Service, Department of Culture, Arts and Leisure (DCAL) and internally with Natural Heritage and Hydrology teams about the possible impacts of a scheme before issuing a licence. With regard to impoundments of water, the Department consult with other agencies that have responsibility for fisheries legislation and, where relevant, the Habitats Regulations in Northern Ireland. All fish pass designs and specifications must be submitted to the DCAL for approval before a pass is constructed.

Northern Ireland Water is also the sole provider of water sewerage services in Northern Ireland, with the obligation to monitor effluent at treatment plants. Its activities in this respect are assessed by NIEA, which is responsible for administering a system of discharge consents relating to the quality and quantity of trade and sewage effluent that may be discharged from major industrial activities. In terms of septic tanks, the Department of the Environment (DoE) Planning Service planning system is the key control for ensuring the protection of our waters by restricting the location of new developments. NIEA consent all discharges and undertake inspections and enforcement for water quality incidents related to septic tanks and proprietary on-site systems.

The Department of Regional Development (Road Service) and Northern Ireland Water and NIEA are responsible for reducing the pollution and flood risk from urban development. The Department of Agriculture and Rural Development (DARD) and DOE have joint responsibility for implementing the Nitrates Directive and are responsible for all issues relating to the agricultural sector in relation to discharge, sewage and pollution prevention and control. DARD provides practical guidance for farmers and growers in relation to pollution control and is responsible for approval of any pesticides that are used on farms in Northern Ireland.

Within the forestry sector, responsibility to reduce sedimentation and nutrient and pesticide inputs lies with DARD, the Forest Service and private landowners, with regulation and support provided by the DOE and the Heath and Safety Executive (HSE).

The NIEA is also responsible for the regulation of waste activities, processing licences in this sector, including pollution prevention and control permits and is the competent authority for movements of waste into and out of Northern Ireland. NIEA maintains a high level of advice and guidance to legitimate producers, carriers and managers of waste.

In terms of flood control the Rivers Agency is responsible for managing the water levels of several loughs and river stretches with additional water level management provided by other departments in specific instances. The Rivers Agency also has general powers to undertake, construct and maintain drainage works (which includes defence) and emergency works to watercourses and sea defences. Northern Ireland Water is responsible for improving flow in rivers and levels in lakes with support and regulation provided by DRD and the Northern Ireland Authority for Utility Regulation (NIAUR).

With respect to morphological changes the removal of any material from the bed of a river requires the consent of the Fisheries Conservancy Board (FCB) and in the Foyle and Carlingford areas the consent of the Foyle, Carlingford and Irish Lights Commission (FCILC). Rivers Agency has a statutory obligation to maintain free flowing rivers and have powers to carry out drainage schemes on any designated waterway. Work programmes are agreed with DCAL Inland Fisheries and NIEA. Consent for culverting must be approved by Rivers Agency who consult with DCAL where a culvert proposal might impede fish movements or otherwise impact a fishery. DoE Planning Service will only permit the culverting or canalisation of a watercourse in exceptional circumstances. The DARD and Rivers Agency provide environmental support and advice on new flood defence schemes and maintenance works.

The DOE, through NIEA, is responsible for licensing of deposits in the sea within the Northern Ireland zone. DARD is the appropriate Department regarding harbour works within any fishery harbour and DRD covers all other harbours. The extraction of minerals from the marine environment by dredging are licensed by NIEA who determines licence applications through a consultation process with other government Departments and organisations with a statutory role.

Northern Ireland has a number of international obligations to address invasive species issues and main pieces of legislation relating to invasive alien species are implemented by DARD, DCAL, FCLIC and Loughs Agency. NIEA are committed to raising awareness among water users with the aim of preventing further spread.

DCAL is responsible for the salmon and inland fisheries of Northern Ireland and managing fish migration with enforcement jointly carried out by FCB and Loughs Agency. DARD is responsible for the licensing of fish and shellfish farms in Northern Ireland. FCILC are responsible for licensing and regulation of aquaculture and shellfisheries in the Loughs Foyle and Carlingford areas. Technical advice, guidance and support are provided by DCAL and Loughs Agency on matters relating to the conservation, protection, development and improvement of fisheries.

3.3 STEPS TO RIVER BASIN MANAGEMENT PLANNING

A sequential approach was taken to developing the River Basin Management Plans and their associated Programmes of Measures, for the North Eastern RBD. This involved asking a number of questions as to determine the needs of each River Basin Management Plan, as laid out in **Table 3.1**.

Table 3.1 Steps to RBMP and POM development

| Questions | Details | Where has this been answered |
|---|--|---|
| | | Article 5 Characterisation - Technical Summary Report |
| What Causes Our Water Problems? | Which issues are causing problems? What waters should be the focus and what actions should we take to solve them. | Significant Water Management Issues Booklet |
| | | Draft River Basin Management Plan |
| | | WFD Monitoring Programme National Report |
| How Healthy Are Our Waters? | What is the condition of the waters? | WFD Status Background Document |
| | | Draft River Basin Management Plan |
| What Do We Plan | Once we know the condition of our waters and the causes of their problems we have to set sustainable goals, or objectives; this means deciding what | WFD Objectives Background Documents |
| To Achieve? | standards we need our waters to achieve, in balance with what uses and special interests we need them to support. | Draft River Basin Management Plan |
| What Actions Must | The Water Framework Directive stipulates some required measures we have to take to manage our waters. We have identified actions under these | Programme of Measures Background Document |
| We Take? required measures, set | required measures, setting out existing and new plans and programmes to ensure full and effective | Draft River Basin Management Plan |
| What Will Required | We need to identify how far the required measures will take us towards achieving our objectives. We have | WFD Objectives Background Document |
| Measures Achieve? | | |
| What Further Actions Can We Take? | We need to identify additional actions that can go | Programme of Measures Background Document |
| | further than the required measures to deal with any remaining problems in targeted waters. Alternative actions have to be tested to select ones that are | Economic Baseline and Guidance Background Documents |
| | practical, feasible and of significant benefit. | Draft River Basin Management Plan |

| Questions | Details | Where has this been answered | |
|---|--|---|--|
| | Again we need to review how far the required plus the | WFD Objectives Background Document | |
| What Will Additional Measures Achieve? | additional measures will take us towards achieving our objectives. In some cases, even after considering every possible action, we may not be able to restore | Artificial and Heavily Modified Water Bodies Background Documents | |
| | waters and objectives must be refined. | Draft River Basin Management Plan | |
| Our Objectives in the North Eastern District | We have set out the particular waters in the North Eastern District where we have proposed alternative objectives. The timescales for achieving improvements in our waters are also demonstrated. | Draft River Basin Management Plan WFD Interactive Web Map | |
| The outcome of this planning process is an action programme for the North Eastern District to achieve these improvements. We have proposed a detailed action plan setting out what, where and when actions are needed and who will do them. | | Draft River Basin Management Plan WFD Interactive Web Map | |

Further information on the supporting documents and WFD interactive web map is available on the NIEA website (www.ni-environment.gov.uk/wfd)

3.4 RISK ASSESSMENT OF WATER BODIES IN THE NORTH EASTERN RBD

3.4.1 Introduction

As part of the 2005 Characterisation Study for the North Eastern RBD an assessment of the risks to water bodies within the RBD was carried out. This was risk-based analysis, which projected the likelihood of a water body meeting its WFD status objectives. The assessment examined water status issues both from the top down (looking at drivers which cause **pressures** on waters) and from the bottom up (looking at known **impacts** on water status). The overall risk assessment process was a precautionary one, in that a single pressure can cause a water body to be classified at risk. Where a water body was identified as having more than one pressure, the worst case was used to classify the overall risk assessment results for the water body. Four categories have been used to describe the analysis results as described in **Table 3.2**.

Table 3.2 Waterbody Risk Categories

| | Category | Description |
|------|--|--|
| (1a) | Water bodies at significant risk – "At Risk" | Water bodies for which consideration of appropriate measures to improve status can start as soon as practical |
| (1b) | Water bodies probably at significant risk – "Probably at Risk" | Focus for more detailed risk assessments (including, where necessary, further characterisation) aimed at determining whether or not the water bodies in this category are at significant risk in time for the publication of the interim overview of significant water management issues in 2007 |

| | Category | Description |
|------|--|--|
| (2a) | Water bodies probably not at significant risk – "Probably not at Risk" | Focus for more detailed risk assessments aimed at improving the quality of information and determining whether or not the water bodies in this category are not at significant risk in time for the publication of the draft River Basin Management Plan due to be completed in 2008 |
| (2b) | Water bodies not at significant risk – "Not at Risk" | Consideration of appropriate measures to ensure no deterioration in status can start as soon as practical |

It should be noted that the 2005 risk assessments have now been superseded by current waterbody classifications. Further information can be found in Section 5.3.3 and in the draft Plan.

3.4.2 Surface Water Bodies Risk Assessment Summary

Tables 3.3 to 3.6 provide a summary of the 2005 risk assessment for each of the water body types considered, e.g. river, lakes, coastal and transitional. Some 97.2% of the river water bodies in the RBD (98.5% by area) were classified as either At Risk or Probably at Risk. All of the lake and transitional water bodies were classified as either At Risk or Probably at Risk, while 15 of the 16 coastal water bodies (96.7% by area) were classified as either At Risk or Probably at Risk. **Figure 3.3** provides a summary of the overall risk assessment.

Table 3.3 River Water Bodies Risk Assessment Summary

| Reporting Category | Number of Water bodies | % of Number | km Affected | % Area of RBD |
|---------------------------|---------------------------|----------------|-------------|---------------|
| 1a – At Risk | 84 | 75.6 | 2231 | 87.6 |
| 1b – Probably At Risk | 24 | 21.6 | 335 | 10.9 |
| 2a – Probably Not At Risk | 3 | 2.7 | 45.8 | 1.5 |
| 2b – Not At Risk | 0 | 0 | 0 | 0 |
| Total At Risk (1a + 1b) | 108 | 97.2 | 2566 | 98.5 |

Source: Table 4.2, North-Eastern River Basin District Article 5 Characterisation - Technical Summary Report

Table 3.4 Lake Water Bodies Risk Assessment Summary

| Reporting Category | Number of Water bodies | % of Number | % Area of RBD |
|---------------------------|------------------------|-------------|---------------|
| 1a – At Risk | 2 | 66.7 | 69.5 |
| 1b – Probably At Risk | 1 | 33.3 | 30.5 |
| 2a – Probably Not At Risk | 0 | 0 | 0 |
| 2b – Not At Risk | 0 | 0 | 0 |
| Total At Risk (1a + 1b) | 3 | 100 | 100 |

Source: Table 4.3, North-Eastern River Basin District Article 5 Characterisation - Technical Summary Report

Table 3.5 Transitional Water Bodies Risk Assessment Summary

| Reporting Category | Number of Water bodies | % of Number | % Area of RBD |
|---------------------------|------------------------|-------------|---------------|
| 1a – At Risk | 3 | 100 | 100 |
| 1b – Probably At Risk | 0 | 0 | 0 |
| 2a – Probably Not At Risk | 0 | 0 | 0 |
| 2b – Not At Risk | 0 | 0 | 0 |
| Total At Risk (1a + 1b) | 3 | 100 | 100 |

Source: Table 4.4, North-Eastern River Basin District Article 5 Characterisation - Technical Summary Report

Table 3.6 Coastal Water Bodies Risk Assessment Summary

| Reporting Category | Number of Water bodies | % of Number | % Area of RBD |
|---------------------------|------------------------|-------------|---------------|
| 1a – At Risk | 10 | 62.5 | 79.6 |
| 1b – Probably At Risk | 5 | 31.3 | 17.1 |
| 2a – Probably Not At Risk | 1 | 6.3 | 3.3 |
| 2b – Not At Risk | 0 | 0 | 0 |
| Total At Risk (1a + 1b) | 15 | 93.8 | 96.7 |

Source: Table 4.5, North-Eastern River Basin District Article 5 Characterisation - Technical Summary Report

3.4.2.1 Groundwater Risk Assessment Summary

The WFD sets objectives of good quantitative and chemical status for groundwaters. As shown in **Table 3.7**, half of the eight groundwater bodies included within the NERBD were classified as either At Risk or Probably at Risk, representing 73.3% of the groundwater body area.

Table 3.7 Groundwater Bodies Risk Assessment Summary

| Reporting Category | Number of Water bodies | % of Number | % Area of RBD |
|-------------------------|------------------------|-------------|---------------|
| 1a – At Risk | 1 | 12.5 | 5.9 |
| 1b – Probably At Risk | 3 | 37.5 | 67.4 |
| 2a – Probably At Risk | 4 | 50 | 26.7 |
| 2b – Not At Risk | 0 | 0 | 0 |
| Total At Risk (1a + 1b) | 4 | 50 | 73.3 |

Source: Table 4.7, North-Eastern River Basin District Article 5 Characterisation - Technical Summary Report

3.4.2.2 Other Issues of Concern

Alien Species. Alien species are non-indigenous invasive flora and fauna, which threaten the native ecology of the NERBD by competing for habitats and / or food. Six alien species of concern are present in the NERBD. Australian Swamp Stonecrop has been found on Strangford Lough, Crawfordsburn, Donaghadee, Castlewellan and Lady Dixon Park. Common Cord Grass and Japanese seaweed have been found in Strangford Lough, while Water Fern has been found in Lagan Valley Regional Park and Clandeboye Lake. Both Floating Pennywort and Parrot's Feather have been found in the Glastry Clay Pits.

Fisheries. Fishery activities have started to be addressed. Amongst the freshwater fish species, salmon (and trout) are subjected to the greatest fishing /angling pressures. In Northern Ireland the commercial fisheries for salmon, trout, eels and pollan have declined in recent years and although angling remains the major participation sport in Northern Ireland, catches are becoming more variable. Species most sensitive to impacts on their habitats, such as salmon and char, are currently under pressure whilst a major decline in eel recruitment to the coast is a real concern. The sea loughs also provide economically valuable areas for shellfisheries such as mussel and native oysters. In the NERBD commercial aquaculture activities are located along the Mourne Coast.

Bathing Water Standards. Bathing Waters are areas protected for use as recreational bathing and must meet standards for microbiological quality in order to protect human health. Risk categories were assigned to recognised bathing waters according to results of monitoring carried out in these waters. Where a bathing water failed to meet the requirements of the EU and national bathing water standards as 'at risk' designation was assigned. During the 2005 Article 5 Characterisation study the Antrim Coast was identified as "at risk" with respect to bathing water standards.

Heavily Modified and Artificial Water bodies. Surface water bodies that are unlikely to achieve good status because of physical alterations to facilitate human activities including navigation, water abstraction and regulation, flood protection and land drainage have been identified for special consideration under the WFD. The Directive recognises that there are cases where the benefits of such uses need to be retained and permits identification and designation of Artificial Water bodies (AWB) and Heavily Modified Water bodies (HMWB). In the NERBD, 34 water bodies are designated as HWMBs (Rivers-26, Lakes-2, Transitional-3 and Coastal-3). There are no AWB identified in the NERBD.

3.4.2.3 Economics Baseline

While the SEA is not primarily concerned with the economic impact of the Plan, these types of impacts are considered indirectly in the assessment of impacts under SEA topic headings such as Material Assets and Population.

A baseline economic characterisation of the NERBD was carried out at a national level in Northern Ireland and is included in the report, *The Northern Ireland Water Framework Directive Article 5 Economic Analysis of Water Use.* The economics baseline included consideration of water demand sources (e.g. households, industry), the monetary value of water-using activities to the economy, the recreational benefits of water and the cost of provision of water services.

4 CONSULTATION

4.1 CONSULTATION DURING SCOPING STAGE

To begin the process of scoping the SEA for the North Eastern RBMP and POMs there was an initial consultation was held with the Statutory Authorities, as designated by the relevant SEA legislation and listed in **Table 4.1**. Following the statutory consultation, it was considered best practice to include a number of relevant non-statutory consultees in the scoping process; these are also listed in **Table 4.1**. In addition, the Draft Scoping Report was published on the North Eastern RBD website to encourage further participation by stakeholders and the public in the consultation process.

Table 4.1 Consultees in the SEA Scoping Process

| Consultee | Statutory / Non- Statutory | Tier |
|--|-------------------------------|--------|
| DoE (NI) Environment and Heritage Service* | Statutory | First |
| Ireland River Basin District Project Coordinators | Non-Statutory | Second |
| Northern Ireland Interdepartmental Working Group | Non-Statutory | Second |
| Northern Ireland Stakeholder Forum | Non-Statutory | Second |
| Northern Ireland Council for Nature Conservation and Countryside | Non-Statutory | Second |

^{*} Now the Northern Ireland Environment Agency

Prior to the publication of the Draft Scoping Report comments were received from the:

- Department of Communications, Energy and Natural Resources (23/11/07 and 10/01/08);
- Department of the Environment, Heritage and Local Government (28/11/07 and 15/01/08);
- Environmental Protection Agency (23/11/07 and 18/01/08);
- DoE (NI) Environment and Heritage Service (23/11/07, 15/01/08, 25/01/08); and
- Royal Society for the Protection of Birds (NI) (13/11/07).

In addition comments were received from the following stakeholders/bodies upon publication of the Draft Scoping Report:

- Health and Safety Executive, Ireland;
- Northern Ireland Freshwater Task Force;
- Office of Public Works, Ireland;

- Harbour Master Shannon Estuary;
- Coillte:
- Friends of Irish Environment;
- National Parks and Wildlife Service; and
- Department of the Environment, Heritage and Local Government.

It should be noted that the list above includes the names of all bodies/organisations from which comments were received, regardless of which (I)RBD comments were sent to, as comments received on one RBD were considered, where applicable, for the remaining seven RBDs.

The comments received in relation to the Draft Scoping Reports generally consisted of:

- Information on potential sources of baseline information;
- Comments on the assessment methodology;
- Additional SEA Objectives to be considered;
- · Additional pressures to be considered; and
- Additional types of impacts to be considered.

All of the comments received are included with the Final Scoping Report for the SEA of the North Eastern RBD River Basin Management Plan and Programme of Measures, which is available at www.nerbd.com. Any comments received after publication of the Final Scoping Document have been considered in the development of this Environmental Report.

4.2 CONSULTATION DURING ENVIRONMENTAL ASSESSMENT STAGE

To ensure that timely consultation with the statutory consultees and non-statutory consultees continued throughout the evolution of the RBMP/ POM and the SEA process, it was decided to circulate a paper discussing the preliminary alternatives being considered as well as the proposed assessment methodology. The purpose of this discussion paper was to inform key stakeholders about the proposed alternatives to be considered as part of the SEA and to elicit comment on these.

A number of SEA Integration Workshops and Information Awareness Sessions were held to elicit comments from the Plan makers in order to refine the assessment included in the SEA. Key issues raised during some of these workshops / meetings are included in **Table 4.2**.

Table 4.2 Key Issues Raised at SEA and Plan Integration Workshops

| Alternatives Workshop (Ire) | SEA Awareness Day (NI) | Objectives, Targets and Indicators Workshop (Ire and NI) |
|--|--|---|
| Climate Change | Assessment of 'Business as | Proposed Objectives, Targets and |
| Language and Terminology | Usual Scenario' | Indicators |
| Level of Detail | Appropriate Assessment in the | Tone of Language and Terminology |
| Proposed Alternatives | SEA and Plan making process | Level of Detail for Targets |
| Assessment Approach | Potential conflicts between the WFD and the Habitats Directive | Water as an Economic Resource Consultation |
| Additional Plans to be produced, e.g. Pearl Mussel | Language for measures | |
| | Format of Ireland and Northern Ireland Plans | |

4.3 INTEGRATION OF RIVER BASIN MANAGEMENT PLANNING AND STRATEGIC ENVIRONMENTAL ASSESSMENT

This Environmental Report was developed in parallel with the North Eastern River Basin Management Plan and Programme of Measures. The SEA process commenced in September 2007, and while the initial stages of the planning process began in 2004 with the start of the characterisation of the RBD, consultation on the issues to be addressed in the Plan began in June 2006 with the publication of a timetable and work programme for production of the Plan. This was followed by consultation on the Significant Water Management Issues report for the District published in 2007. The elements of the River Basin Management Plan and SEA are presented schematically below (**Figure 4.1**).

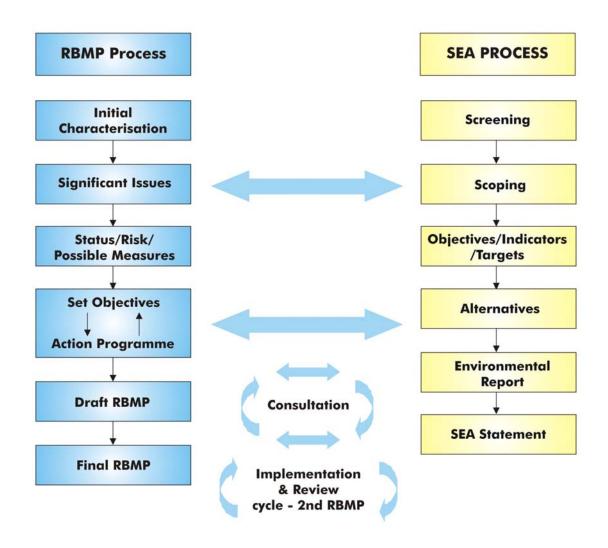


Figure 4.1 Building Blocks of the River Basin Management Plan and POM

Integration of the SEA and the RBMP/POM was achieved through close involvement of relevant team members in all stages of the project including: SEA scoping; review of the existing situation; and public consultation. The SEA and RBMP Teams also participated in a number of workshops in relation to developing the: SEA assessment methodology; alternatives to be considered in the SEA; SEA objectives, targets and indicators; and mitigation measures and monitoring strategies. The development of the River Basin Management Plan, including the Programme of Measures, was progressed in consultation with the *River Basin Management Plan and Programme of Measures Strategic Environmental Assessment Steering Group*.

4.4 PROPOSED CONSULTATION ON DRAFT PLAN, POM AND ENVIRONMENTAL REPORT

This Environmental Report does not form the final step in the SEA process. The consultation programme on the draft RBMP and POM will also provide an opportunity for statutory bodies and stakeholders to comment on the findings of the SEA. The requirements for consultation under both the WFD and the SEA Directive, as transposed, are outlined in **Table 4.3**.

Table 4.3 Consultation Requirements under the WFD and SEA Directive

| Water Framework Directive | SEA Directive | Comments |
|------------------------------|--|--|
| 6 months (Article 14(2)) | In Northern Ireland, the legislation requires that the consultation period must be of sufficient length to ensure that consultees are given an 'early and effective opportunity to express their opinion on the relevant documents'. (S.R. 2004/280) | Consultation on the Environmental Report prepared as part of the SEA will last for 6 months and run in parallel with the consultation on the draft Plan. |

The development of the consultation programmes for the draft Plan / POM and the SEA are currently underway. Please see the RBD website for details of these which will be posted as they become available. Following consultation on the draft Plan / POM and Environmental Report, the comments received will be considered and a revised Final Plan / POM and SEA statement will be completed. Section 11 outlines the next steps in the SEA and Plan making process.

4.5 HABITATS DIRECTIVE ASSESSMENT CONSULTATION

Consultation on the methodology used for the Habitats Directive Article 6 assessment and the results from the assessment was held with the National Parks and Wildlife Service (NPWS) (part of the DoEHLG), who are the competent Authority for conservation of habitats and species in Ireland, and also with the NIEA who are the competent Authority for the conservation of habitats and species in Northern Ireland. Comments were received on the proposed assessment methodology. In addition, two one-day workshops were held with the NPWS and the NIEA to review the outcomes of the stage one screening, and to discuss suggested changes to the draft RBMP as a result of findings. Potential mitigation measures arising from the POMs were also discussed and recommendations made for future plans or projects. For further information please see the Article 6 report.