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

SEA Statement

North Western | Neagh Bann | North Eastern | Western | Eastern | Shannon | South Eastern | South Western

north western international river basin district

North South Shared Aquatic Resource (NS SHARE)

INTERREG IIIA

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1 INTRODUCTION

1.1 THE SEA STATEMENT

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA of the River Basin Management Plan (RBMP), and its associated Programmes of Measures (POM), for the Ireland portion of the North Western International River Basin District (IRBD) in accordance with national and EU legislation. This document provides information on the decision-making process and documents how environmental considerations, the views of consultees and the recommendations of the Environmental Report and the assessment carried out under Article 6 of the Habitats Directive have been taken into account by, and influenced, the Plan. An Addendum to the SEA Environmental Report is also provided at the end of this document showing how and where it has been updated since its publication on 22 December 2008.

The Plan and these associated documents have been prepared by the competent authorities for the Ireland portion of the North Western IRBD, which are the County Councils of Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo. Donegal County Council is the statutorily designated coordinating authority for the North Western IRBD local authorities in Ireland.

This SEA Statement has been prepared in accordance with Schedule 2, Section 16(2) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (Ireland) (S.I. No. 435 of 2004). The adopted Plan for the Ireland portion of the North Western IRBD, the SEA Environmental Report, the Habitats Directive Assessment Report and the SEA Statement are available for download on the website www.nwirbd.com.

The structure of the SEA Statement is as follows:

1. Introduction
2. Summary of Key Facts
3. Summary of the SEA Process
4. Consultation
5. Key Issues Raised in the Submissions
6. How Environmental Considerations and Consultations have been taken into account in the Final Plan
7. Preferred Scenario and Reasons for Choosing the Final Plan

8. Measures to Monitor Significant Environmental Effects of the Implementation of the Adopted Plan
9. Conclusion and Next Steps
10. Addendum to the Environmental Report

1.2 THE FINAL PLAN

Readers of the final Plan will notice significant differences between the layout and presentation of the final Plan from that of the draft Plan. This is because, following close of the consultation period, it was considered that amendments to the Plan were required to make it more accessible and transparent for its users. However, the measures and actions which underlie the Plan have not changed significantly, but rather their presentation has been refined in order to improve transparency and usability. In addition, changes in the overall policy context, due to additional legislation coming on stream since the publication of the draft Plan, are noted throughout the final Plan. The Plan will continue to evolve as new legislation is enacted to further protect and improve water quality; for example introduction of strengthened controls on abstractions of water and physical modifications of water bodies.

The development of Water Management Unit (WMU) Action Plans is another significant addition since the Plan was published in draft form in December 2008. These supplementary documents are an important tool, which assist in dissemination of the plan information on a sub-basin basis, and include implementation programmes which will guide and monitor the progress of Plan implementation between 2009 and 2015 and beyond.

It should be noted that the Northern Ireland portion of the Plan for the North Western IRBD was adopted in December 2009. The documentation for this Plan, including a separate SEA Statement, is available for download at http://www.ni-environment.gov.uk/water-home/wfd.htm.

2 SUMMARY OF KEY FACTS

Title of Plan:	Water Matters: Our Plan! North Western International River Basin Management Plan (2009-2015).
Purpose of Plan:	To fulfil the Water Framework Directive (WFD) 2000/60/EC and Article 13 of the Water Policy Regulations (S.I. 722 of 2003) (as amended) and set out how the aims and objectives of improving and protecting water quality and ecology in the waters of the North Western International River Basin District (IRBD) can be achieved by means of Programmes of Measures (POM).
Competent Authorities:	Within Ireland the competent authorities for the NWIRBD, as required by Annex VII (A)(10) of the WFD and provided in Article 6 of S.I. 722 of 2003, are the County Councils for Donegal, Longford, Cavan, Monaghan, Sligo and Leitrim with Donegal County Council the statutorily designated co-ordinating local authority. It should also be noted that the EPA is the competent authority for the NWIRBD concerning reporting to the European Commission for Ireland and for other tasks assigned in the regulations.
What prompted the Plan:	The EU Water Framework Directive requires the preparation of a management plan for all of the waters (including rivers, canals, lakes, reservoirs, groundwaters, protected areas (including wetlands and other water dependent ecosystems), estuaries and coastal waters) in an area called a River Basin District. This is the management plan prepared in response to that requirement for the NWIRBD.
Subject:	Describes the actions that will be used to ensure the necessary protection of the waters of the NWIRBD.
Period covered:	The first RBMP and POM will cover the period from 2009 up to 2015. In certain circumstances the RBMP considers the timeline horizons of 2021 and 2027, being the end of the second and third 6-year Plan cycles, respectively. These longer-term horizons are necessary where good status or good potential or indeed less stringent objectives (LSO) cannot be achieved by 2015 or where measures to achieve these are deemed technically infeasible or disproportionate in cost.
Frequency of updates:	An interim review will be carried out after three years. Updates will be carried out in 2015 and 2021 prior to the start of the second and third 6-year Plan cycles.
Area of Plan:	The RBMP and POM applies to the Ireland portion of the North Western IRBD, which incorporates all of County Donegal and parts of counties Longford, Cavan, Monaghan, Sligo and Leitrim. The entire North Western IRBD (both

	Ireland and Northern Ireland) covers a total area of 14,792 km² including the marine elements (see **Figures 2.1** and **2.2**).
Summary of nature/content of Plan:	The Plan establishes water status objectives and identifies the measures to achieve those objectives. It also identifies the organisations that are responsible for implementing measures. The Plan sets out a realistic approach to securing environmental objectives, and is in compliance with the requirements of the Water Framework Directive. The data used to develop the Plan will be continually updated and reviewed to ensure that measures achieve the identified objectives. Much of the detailed information behind the Plan has been incorporated into a computer-based interactive plan tool, *Watermaps* on www.wfdireland.ie. The Plan is also supported by a large number of background documents, also on www.wfdireland.ie, which provide in-depth information about technical and detailed aspects of the Plan.
Date Plan came into effect:	15 July 2010
Main contact:	Director Water, Environment and Emergency Services Donegal County Council County House Lifford County Donegal email: info@donegalcoco.ie

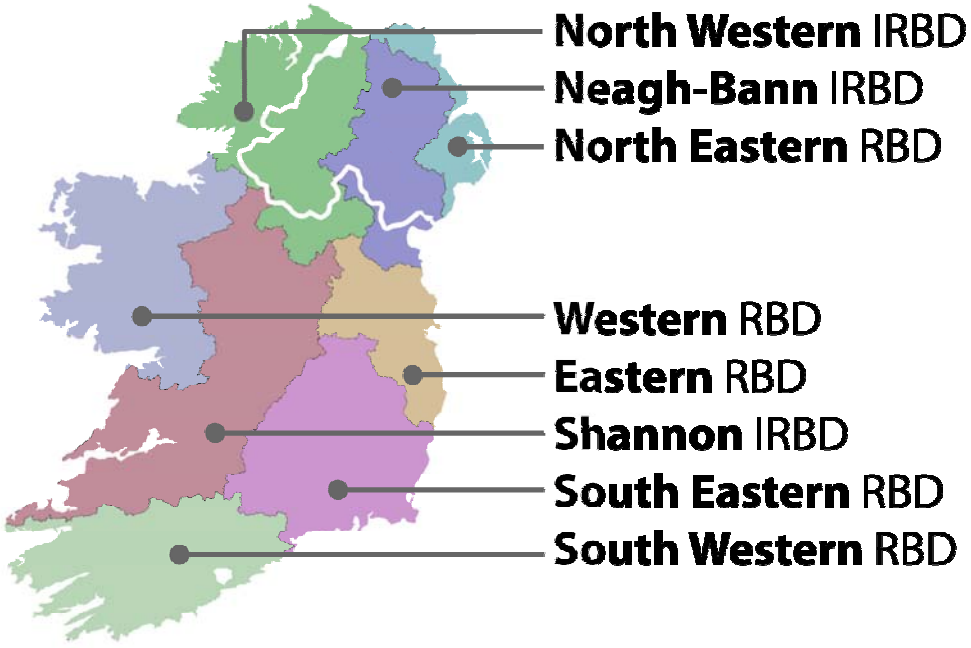

Figure 2.1 River Basin Management Areas of Ireland

Figure 2.2 North Western International River Basin District

3 SUMMARY OF THE SEA PROCESS

The RBMP and associated POM for the North Western IRBD has been subject to a process of SEA, as required under the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (Ireland) (S.I. No 435 of 2004). This has included the key steps described in the following sections.

3.1 SCOPING AND STATUTORY CONSULTATION

Scoping was carried out to establish the level of detail appropriate for the Environmental Report. The scoping exercise included consultation with the four statutory consultees for SEA in Ireland and Northern Ireland as well as a number of non-statutory consultees. The four statutory consultees for SEA in Ireland and Northern Ireland are the:

- **Ireland:** Department of Environment, Heritage and Local Government (DEHLG);
- **Ireland:** Department of Communications, Marine and Natural Resources (DCMNR) now the Department of Communications, Energy and Natural Resources (DCENR);
- **Ireland:** Environmental Protection Agency (EPA); and
- **Northern Ireland:** Northern Ireland Environment Agency (NIEA) (formerly the Environment and Heritage Service).

Scoping was carried out specifically for the North Western IRBD as well as individually for each of the other seven River Basin Districts on the island. Comments received for the North Western IRBD together with comments applicable from any of the other seven RBDs were considered for the North Western IRBD. All of the environmental topics listed in the SEA Directive were scoped in for the assessment of the RBMP and POM for the North Western IRBD.

3.2 ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT

The preparation of an Environmental Report on the likely significant effects on the environment of the RBMP and POM for the North Western IRBD included consideration of:

- Baseline data relating to the current state of the environment;
- Links between the RBMP and POM and other relevant strategies, policies, plans, programmes and environmental protection objectives;
- Key environmental problems affecting the North Western IRBD;

- The likely significant effects of the RBMP and POM for the North Western IRBD on the environment (both positive and negative);
- Measures envisaged for the prevention, reduction and mitigation of any significant adverse effects;
- An outline of the reasons for selecting the alternatives chosen; and
- Monitoring measures to ensure that any unforeseen environmental effects will be identified, allowing for appropriate remedial action to be taken. These have been aligned with the existing WFD monitoring programme where possible in order to ensure monitoring programme efficiency and ease of data gathering.

3.3 HABITATS DIRECTIVE ARTICLE 6 ASSESSMENT

In addition to the SEA, there was a requirement under the EU Habitats Directive (92/43/EEC) to assess whether the RBMP and POM for the North Western IRBD has the potential to impact negatively on a Natura 2000 site, which includes Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species. 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 assessment of the RBMP and POM for the North Western IRBD was carried out under Article 6 of the EU Habitats Directive (92/43/EEC) (termed the HDA) in conjunction with the SEA and Plan making processes, with the findings of the HDA used to guide the development of the alternatives considered as part of the SEA. Consultation on the methodology of approach took place with the National Parks and Wildlife Service (NPWS) and NIEA throughout the HDA process.

3.4 SEA STATEMENT

The main purpose of the SEA Statement is to provide information on the decision-making process for the RBMP and POM in order to illustrate how decisions were taken, making the process more transparent. In doing so, the SEA Statement documents how the recommendations of both the

Environmental Report and the HDA[1] Report, as well as the views of the statutory consultees and other submissions received during consultation, have influenced the preparation of the final RBMP and POM for the North Western IRBD. The SEA Statement also provides information on the arrangements put in place for monitoring and mitigation. The SEA Statement is available to the public, along with the Environmental Report, the HDA Report and the adopted Plan and POM.

The information outlined in **Table 3.1** is provided in the SEA Statement based on the requirements of the legislation and guidance.

Table 3.1 Information Summarised in SEA Statement

Requirement of SEA Legislation (S.I. 235/2004)	Section of SEA Statement
How environmental considerations have been integrated into the plan or programme, or modification to a plan or programme (Article 16(2)(b)(i)).	Section 6.1 and Table 6.1
How the Environmental Report prepared pursuant to Article 12 has been taken into account during the preparation of the plan or programme, or modification to a plan or programme (Article 16(2)(b)(ii)(I)).	Section 6.2 and 6.3
How the submissions and observations made to the competent authority in response to a notice under Article 13 has been taken into account during the preparation of the plan or programme, or modification to a plan or programme (Article 16(2)(b)(ii)(II)).	Section 1.2, Section 3, Section 4, Section 5 and Section 6.4
How any consultations under Article 14 have been taken into account during the preparation of the plan or programme, or modification to a plan or programme (Article 16(2)(b)(ii)(III)).	Section 6.4
The reasons for choosing the plan or programme, or modification to a plan or programme, in light of the other reasonable alternatives dealt with (Article 16(2)(b)(iii)).	Section 7
The measures decided upon to monitor, in accordance with Article 17, the significant environmental effects of the plan or programme, or modification to a plan or programme (Article 16(2)(b)(iv)).	Section 8

3.5 ADOPTION OF THE PLAN

The River Basin Management Plan for the Ireland portion of the North Western International River Basin District and its associated Programmes of Measures were adopted by each of the competent authorities by the statutory deadline of 30 April 2010 either through reserved or executive function. Subsequently, the EPA reviewed the final RBMP and POM for the North Western IRBD and submitted a report to the Minister for Environment, Heritage and Local Government. Following review of the EPA report and inclusion of amendments by the Minister, the final RBMP and POM was published and came into effect on 15 July 2010.

[1]Recent guidance (2010) from National Parks and Wildlife Service in Ireland has replaced terms such as HDA with *Appropriate Assessment of Natura 2000 Sites* and the output is now referred to as a *Natura Impact Statement (NIS).*

As required under the WFD, an interim report describing progress in the implementation of the planned programmes of measures set out in the plans will be submitted to the EU Commission within three years of adoption of the Plan.

4 CONSULTATION

4.1 INTRODUCTION

In the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No 435 of 2004), consultation is specifically required at the scoping stage with the nominated environmental authorities, and then the wider public when the Environmental Report and the draft Plan are put on public display. Finally, the SEA Statement and the adopted Plan are required to go on public display at the end of the Plan-making process. This section describes the statutory and non-statutory consultation that has taken place over the course of the SEA process.

4.2 FIRST PHASE – INITIAL CONSULTATION

To begin the process of scoping the SEA for the RBMP and POM for the North Western IRBD, an initial consultation (including a draft Scoping Report) 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 Western IRBD website in February 2008 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
Environmental Protection Agency	Statutory
Minister for Environment, Heritage and Local Government	Statutory
Minister for Communications, Energy and Natural Resources	Statutory
Northern Ireland Environment Agency	Statutory
River Basin District Coordinators	Non-Statutory
River Basin Advisory Councils	Non-Statutory
River Basin Management Groups	Non-Statutory
River Basin Steering Groups	Non-Statutory

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

- Information on potential sources of baseline information;
- Comments on the proposed 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, which is available at www.nwirbd.com and in the RBMP Document Store on www.wfdireland.ie.

4.3 SECOND PHASE – CONSULTATION ON THE DRAFT PLAN, ENVIRONMENTAL REPORT AND HDA REPORT

Statutory consultation on the draft Plan, SEA Environmental Report and the Habitats Directive Assessment (HDA) Report took place from 22 December 2008 to 22 June 2009. This was in accordance with consultation required under Article 14(2) of the Water Framework Directive (as transposed in Article 14 of the Water Policy Regulations (S.I. 722 of 2003) (as amended)) and Article 13 (1 and 2) of the SEA Regulations (S.I. 435 of 2004), with all three documents placed on public display in hard copy and online for review and comment. A notice was published in the Irish Independent on 22 December 2008 inviting written submissions in relation to the draft RBMP and POM, Environmental Report and HDA Report. A comprehensive programme of Public Information Days was also held during the consultation period. In Ireland, these were advertised through a notice in the Irish Independent and a national radio campaign. The date and location of each NWIRBD Information Day is listed in **Table 4.2**. Representatives from the both the Plan team and the SEA/HDA teams attended all of these events in order to answer questions on the draft Plan, SEA Environmental Report and the HDA Report as well as how the processes were integrated during the plan-making process.

Table 4.2 Public Information Day Locations and Dates

Location	Date
Mount Errigal Hotel, Letterkenny	28-Apr-09
Mill Park Hotel, Donegal Town	30-Apr-09
Cavan Crystal Hotel, Cavan	05-May-09

Section 5 of this document contains an overview of the key issues raised in the written submissions made in response to the draft RBMP and POM for the North Western IRBD, and its associated Environmental Report and HDA Report, as well as comments made at the Public Information Days. The content of all written submissions and verbal comments were considered during the finalisation of the RBMP and POM for the North Western IRBD. Written submissions were made by the

individuals/organisations listed in **Table 4.3** on the following page. Please note some organisations/ individuals submitted more than one set of comments.

Table 4.3 Individuals/Organisations making written submissions

An Taisce	Jennifer Horn
Aquaculture Initiative	John Cunningham
Aquaculture Initiative	Judith Hoad
Association of Electricity Producers	Leitrim County Council
Ballynure Angling Club	Londonderry Port
Bangor Angling Club	Loughs Agency
Birdwatch Ireland	MEP
Brian MacDonald	Mills & Millers of Ireland
British Hydropower Association	Monaghan County Council
Central Fisheries Board	Natural Living Assets
Clady and District Angling Club	NIEA
Coillte	NIEA Land and Resource Management Unit
Committee for Regional Development	NI Freshwater Taskforce
Council for Nature Conservation and the Countryside	Northern Ireland Tourist Board
Dawson McAlister	Northern Ireland Water
Dept. of Agriculture, Fisheries and Food	Northern Regional Fisheries Board
Dept. of Communications, Energy and Natural Resources	OPW
Dept. for Regional Development, Water Policy Div.	Quarry Products Association Northern Ireland
Derry City Council	Randalstown Angling Club
EPA	Rivers Agency
ESB	Save the Swilly
Fáilte Ireland	Sean Callagy
Fermanagh District Council	Shay Murtagh Ltd
GSI	Sophia Millington-Ward
Heritage Council	SWAN
IBEC	Teagasc
Independent Farmers' Federation	The Consumer Council
Industrial Heritage Association	The National Trust
Irish Concrete Federation	Tim Gleeson
Irish Creamery Milk Suppliers Association	Ulster Angling Federation
Irish Farmers' Association	Ulster Farmers Union
Irish Wildlife Trust	Waterways Ireland
Iveagh Angling Club	WWF Northern Ireland
James Gorman	

* *Please note that submissions made to the NWIRBD which include comments on the Neagh Bann IRBD and the North Eastern RBD are included here for completeness*

A digest of submissions on the draft Plan has been prepared, which details the comments made and provides responses to these. In addition, a summary is provided of where the comments have been addressed in the preparation of the final Plan. The *Digest of submissions and responses to the draft River Basin Management Plan for the North Western International River Basin District* (2010) is available at www.nwirbd.com and www.wfdireland.ie.

5 KEY ISSUES RAISED IN THE SUBMISSIONS

The following sections highlight the key issues raised in the written submissions as well as comments received during the Public Information Days. The key issues raised are discussed below.

5.1 SUGGESTED POLICY CHANGES

Key Issue: A number of submissions suggested the need for policy change at a national level in order to address certain water quality issues. These included suggestions that government and the Plan should do more to tackle the issue of invasive alien species, including introducing a ban on importation. It was also suggested that the Land Drainage Act and 1946 Forestry Act be amended/repealed.

Response: These policy changes have been considered; however, many would require national rather than RBD-level policy changes and as such will be considered at a national level.

As outlined in Section 5.2.12 of the Plan, regulations will be introduced in 2010 to restrict the trade in invasive alien species, including the banning of certain proscribed species. The proposed regulations are intended to ban the possession of listed species for 'the purpose of sale or dispersal or to transfer the species from one place to another within the country'. Where a problem already exists in relation to an invasive alien species, the regulations will provide for Ministerial powers to make a threat response plan and for the power to compel the relevant public authorities to address the threat. The regulations will be put out for public consultation shortly. In addition, the Department of Environment, Heritage and Local Government and the Northern Ireland Environment Agency have funded a series of invasive species projects. Risk assessments have been undertaken of high risk invasive species and rapid control mechanisms, increased stakeholder involvement and best practice guidelines are being developed. See **Section 5.5** of this document for further details.

A discussion of the legislation recently introduced to give further legal effect to measures required to achieve the objectives established in all river basin plans in Ireland is also provided in the Plan (see Section 5.1 of the Final Plan) and a range of other potential measures which are being considered but which require further development (see Section 5.4 of the Final Plan). Other policy changes are being considered at a national and EU level which will support the implementation of the WFD and the RBMPs. Further details of these are detailed in Sections 5.2 and 5.4 of the Final Plan.

5.2 PUBLIC PARTICIPATION

Key Issue: Two particular areas of concern were raised in relation to public participation. The first related to general access to information and second to actual awareness of the whole WFD process.

Response: To address concerns relating to general access to information, the Watermaps tool has been updated and will facilitate faster access to information contained within the database. In addition, the provision of information at Water Management Unit (WMU) level is expected to improve stakeholder access to information at local level. The WFD Ireland website (www.wfdireland.ie) has also been restructured to provide better access to supporting / background documents. Some submissions highlighted that not all members of the public have access to a computer and therefore could not access these documents. For these cases, a point of contact has been identified in the plan through which appropriate access to material required will be facilitated. It is also noted that many community libraries now have computers with internet access. Where available, these public share computers offer another avenue for access to the www.wfdireland.ie website by interested parties.

A second area of concern in the submissions received related to public awareness of the Water Framework Directive, the River Basin Management Plan process and the role of the public in protecting our waterbodies.

Consultation has been an important aspect throughout the development of this plan. A number of public participation background documents have been prepared during the plan making process and these are available on www.nwirbd.com and www.wfdireland.ie. Included in these documents is a digest of submissions on the draft Plan, which details the comments made during the six month public consultation period on the draft Plan, which ran from December 2008 to June 2009. The document provides responses to issues raised and summarises where these have been addressed in the preparation of the final Plan.

As part of stakeholder engagement for the development of the Plan, a RBD Advisory Council was formed and this group consisted of representatives from local authorities (County and Town Councillors) and community and stakeholder groups (agriculture, angling, industry and non-governmental organisations). Voluntary groups are also involved in River Basin Planning activities primarily through the activities of SWAN (Sustainable Water Network) (www.swanireland.ie). SWAN is an umbrella network of 25 of Ireland's leading national and local environmental organisations specifically constituted to address the public participation requirements of the WFD.

A Public Authorities Forum which facilitates information exchange, consultation, cooperation and liaison within and between Ireland's public authorities was also part of the participation approach.

Significant water management issues were discussed with interest groups and county councils at a series of public consultation events in 2007 and 2008. Draft plan public consultation events were held between December 2008 and June 2009 including the public meetings listed in **Table 5.1**.

Table 5.1 Location of Public Meetings Held during Public Consultation on the draft Plan

Location	Date
Mount Errigal Hotel, Letterkenny	28-Apr-09
Mill Park Hotel, Donegal Town	30-Apr-09
Cavan Crystal Hotel, Cavan	05-May-09

A total of 45 written submissions were received in relation to the draft River Basin Management Plan for the North Western IRBD across sectoral interest groups, including but not limited to: local and public authorities; non-governmental organisations; business; agriculture; recreational groups; and private individuals. A summary of the issues raised and responses is contained in the draft plan submissions digest in the *public participation background documents* which is available at www.nwirbd.com and www.wfdireland.ie.

Appendix 5 of the final Plan identifies the programmes of measures (POM) required in the North Western IRBD to achieve the objectives of the WFD and RBMP. Under Co-ordinating Actions, the POM states that the Water Policy Regulations (S.I. 722 of 2003) as amended will:

- Support ongoing public participation and RBD Advisory Councils; and
- Conduct public awareness and targeted education campaigns, including disseminating information using tools such as Watermaps.

Advisory Councils which were in place during the development of the plan have now been dissolved in accordance with article 16 of the Water Policy Regulations (S.I. 722 of 2003) as amended. Consideration is now being given to the future role of Advisory Councils in the context of the next phase of plan implementation.

5.3 DECISION MAKING, WATERBODY STATUS AND ALTERNATIVE OBJECTIVES UNDER THE WFD/EXTENDED DEADLINES

Key Issue: A number of submissions received related to the determination of waterbody status and the application of extended deadlines for improvement of that status beyond the first Plan cycle (2009 - 2015). For several water bodies, submissions queried the status assigned to the water body in the draft Plan. Queries were received regarding this from both local authorities as well as public interest

groups. Linked to this issue was the comment that it was unclear how waterbody status was decided generally.

Response: In order to establish the status of surface and groundwater bodies in Ireland, the EPA developed a WFD-compliant monitoring programme, which became operational in 2007. The structure and content of the programme are the outcome of a major research and development process. As part of this process, new biological classification systems for seven biological indicators were developed and new water quality standards for seven physico-chemical parameters and 62 chemical substances were developed and have been established in law by the Surface Waters Environmental Quality Objectives Regulations (S.I. 272 of 2009) and the Groundwater Environmental Quality Regulations (S.I. 9 of 2010).

The national WFD monitoring programme was designed to provide a comprehensive assessment of water quality and quantity and includes analysis of ecological and chemical parameters as well as water levels and rates of flow at 3,077 river monitoring locations, 307 lake monitoring locations, 297 groundwater monitoring locations and 185 marine monitoring locations. While it is not possible to include every water body in the monitoring programme, the programme was designed to be representative, with the status of monitored (donor) water bodies used to extrapolate the status of nearby unmonitored (recipient) water bodies that are similar in terms of their physical characteristics and the pressures acting on them.

The status of each water body is determined by the EPA based on information gathered by the WFD monitoring programme for the range of parameters mentioned above. The status-setting methodology, along with details of the monitoring programme, classification systems and standards used are detailed in the monitoring and status background documents available on www.nwirbd.com and www.wfdireland.ie.

It should be noted that the current assessment of water body status included in the final Plan is an interim assessment based on monitoring carried out in 2007 and 2008. Final water body status, based on the first complete monitoring cycle from 2007 to 2009, will be established by the EPA in 2011. Status will be updated by the EPA as new monitoring data becomes available and as the classification systems used to interpret the data are refined and applied.

Following determination of waterbody status, the local authorities set objectives for all water bodies, the legal basis for which is established in the Surface Waters Environmental Quality Objectives Regulations (S.I. 272 of 2009) and the Groundwater Environmental Quality Regulations (S.I. 9 of 2010). The default objective of the WFD is to prevent deterioration and to achieve at least good status in all water bodies by 2015. However, the WFD allows for alternative objectives to be set in certain circumstances, including:

1. Extended timescales (i.e. 2021 or 2027) for water bodies where technical, environmental or recovery constraints, such as the time required to implement measures or the time required for a water body to recover from an impact, will not allow achievement of objectives by 2015.

   Between publication of the draft plan and the final plan, a detailed assessment was made of the expected timescales for recovery of waters following implementation of measures. This assessment indicated that longer recovery timescales are required for a larger number of water bodies than was anticipated in the draft plan. In the draft NWIRBD plan, 87% of rivers and canals, 99% of lakes and reservoirs, 91% of estuaries, 48% of coastal waters and 100% of groundwaters were expected to achieve good status by 2015. It is now expected that the good status will be achieved by 2015 in 70% of rivers and canals, 75% of lakes and reservoirs, 32% of estuaries, 30% of coastal waters and 100% of groundwaters.

2. Alternative objectives (i.e. good ecological potential) for artificial and heavily modified water bodies which allow the important functions of these water bodies, such as navigation, water storage and flood defence, to be retained while ensuring that ecology is protected and improved as far as possible.

3. Alternative objectives where certain developments, such as flood alleviation schemes and road developments, will not allow achievement of default objectives but which are of overriding public interest and/or contribute overriding benefits to human health and safety.

It should be noted that in the final Plan, neither economic analysis nor disproportionate cost have been used as reasons for applying alternative objectives in any water body and measures must still be taken to ensure that these water bodies achieve the best possible status by 2015.

For a detailed description of the objectives setting process please see the Extended Deadlines Background Document, which is available in the RBMP document store on www.wfdireland.ie.

5.4 IMPLEMENTATION ISSUES

Key Issue: A number of submissions have highlighted the potential difficulties associated with implementation of such a complex and strategic plan, particularly as it will require actions by a number of different sectors and agencies/organisations. The requirement for cooperation between many public agencies and local authorities as well as cross-border cooperation in order to allow efficient and effective implementation of the Plan was particularly noted. Queries were also raised as to why two separate Plans were prepared for the international RBDs.

From a local authority perspective, the availability of financial as well as personnel resources for implementation of elements of the Plan for which they are responsible was raised as an area of concern. Local authority respondents expressed concerns that it would not be possible to meet the

objectives of the Plans unless adequate resources were provided by central government. The lack of economic analysis was also highlighted.

The level of ambition proposed in the draft Plan was also the subject of a number of submissions. Some of these suggested that the ambitions were unrealistically high, while conversely others suggested that the plan did not go far enough.

Response – Implementation of the Plan: Key parties in implementation of the RBMP for the North Western IRBD will be:

- The District's local authorities (Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo), which acted jointly to make the plan; Donegal County Council, as the coordinating local authority in the District will aim to coordinate the work of the authorities and public participation in the district and to coordinate work with the Northern Ireland Environment Agency;
- The Environmental Protection Agency, which is responsible for reporting to the European Union, coordinating activities at national level and certain other tasks such as assigning status, monitoring programmes and review of the plan;
- The Department of Environment, Heritage and Local Government which has a coordinating role in relation to implementation of the Water Framework Directive, and through the Local Government Fund and Water Services Investment Program plays a significant role in determining priority for investment in infrastructure and the availability of resources to local authorities;
- Other public authorities identified under the 2003 Water Policy Regulations, which are required to exercise their functions in a manner which is consistent with the objectives of the river basin management plan; and
- The Water Framework Directive National Advisory Committee which will oversee implementation of the plan at national level. It is chaired by the Department of Environment, Heritage and Local Government and involves representatives from the Department of Agriculture, Fisheries and Food, the Environmental Protection Agency, the City and County Managers Association (representing local authorities) and other Government Departments as appropriate. The establishment of this group will aid in providing cohesion and consistency in implementation across the RBDs as well as provide a forum for representatives from the different implementing bodies to bring their queries and concerns to be heard.

Responsibility for implementation of measures therefore lies with all public bodies whose activities impact on water quality, with these activities required to be performed in a way that will promote achievement of water quality objectives. Additionally, many public bodies must carry out a range of environmental monitoring and enforcement activities under the water protection Directives listed in the WFD, as well as under new legislation, in order to ensure that other stakeholders' actions will lead to

water quality improvements. It should be noted that proper enforcement of existing legislation is essential to the success of implementing the WFD and achieving/maintaining Good and High Status in waterbodies. In response to this, significant increases in resources have been recently secured for State agencies to ensure comprehensive monitoring and enforcement regimes for environmental legislation.

Response – Availability of Resources: Local authorities today face an immense challenge to meet an ever-increasing demand for services across all of their functions. They are required to work within tight resource constraints and depend heavily on funding provided by the Department of Environment, Heritage and Local Government for capital works and indeed day-to-day expenditure. Within the Plan it is acknowledged that it is ever more important to plan the application of resources carefully in order to satisfy national legislative requirements. The Plan further recognises that it is likely that the resource requirements will exceed the current capacity of local authorities and if targets are to be met local authorities and national authorities will have to apply their collective resources to best effect.

Response – Cross Border Coordination: The North Western IRBD lies partly in Ireland and partly in Northern Ireland. The WFD requires that, in cross-border River Basin Districts, Member States must coordinate their activities with the aim of producing a single management plan covering the entire district. The approach taken for the North Western and Neagh Bann IRBDs was to provide a joint overview document (Tier 1 document) titled *Working Together, Managing our Shared Waters*. This document was prepared to demonstrate how the two jurisdictions have managed the coordinated approach to their waters. Each jurisdiction then produced separate documents (Tier 2 documents) which represent the RBMPs for the North Western IRBD. The Working Together document is available from the RBMP document store on the www.wfdireland.ie website.

Response – Level of Ambition: With regards to the level of ambition included in the original draft Plan, Section 4.3 of the final Plan notes that level of ambition has been adjusted to reflect more detailed assessments which have been undertaken in the intervening time between the draft Plan and final Plan. Objectives will be reviewed and amended as necessary during the lifetime of the plan, particularly where significant new information on status, pressures or recovery rates becomes available.

Response – Economic Assessment: Guidance on economic assessment and a baseline report on the economic analysis of water use in Ireland were prepared as part of the economic background documents for the RBMP process and is available from the RBMP document store on www.wfdireland.ie. The Environmental Protection Agency has begun some additional work with regard to quantifying the economic benefits of the water environment. It should be noted that in the final Plan, neither economic analysis nor disproportionate cost have been used as reasons for applying alternative objectives in any water body and measures must still be taken to ensure that these water bodies achieve the best possible status by 2015.

5.5 SUPPLEMENTARY MEASURES

Key Issue: A number of submissions made comment on the inclusion of supplementary measures in the draft Plan and as a result their assessment in the SEA. In particular, comments were received regarding supplementary measures for agriculture, forestry, water charging and invasive species.

Response – Inclusion of Supplementary Measures: The SEA Environmental Report took the view that all of the supplementary measures proposed for inclusion in the draft Plan were reasonable and warranted assessment as some may be implemented towards the end of the first cycle of river basin management planning and before the start of the second cycle.

It should be noted that the terminology used in the final Plan differs to that included in the draft Plan to describe the measures which will be implemented. In the final Plan, all measures are provided as a list in Appendix 4 and 5 of the Plan. The measures required under Article 11(3) of the WFD are termed *Relevant Actions* in these appendices. Where further measures are required to improve/protect status these are termed *Additional Actions* in Appendix 5. These Additional Actions are based on the measures in the *national programme of measures background document* and also the suite of *programme of measures — technical studies background documents* where the specific measures for key water management issues are detailed (available from the RBMP document store on www.wfdireland.ie).

Response – Agriculture: There was a high level of interest in possible supplementary agriculture measures over the course of the public consultation open days and subsequent submissions. Submissions from the agricultural sector generally asserted that the National Action Programme (NAP) under the EU Nitrates Directive was the primary regulatory control, and that the need for supplementary measures would be determined by the findings of the Agricultural Catchment Programme.

As noted in the final Plan, the control of pollution from agriculture remains a significant challenge to achieving water quality standards in Ireland. The Environmental Protection Agency estimates that agricultural sources account for 31% of pollution incidences. The main measure for addressing pollution from agricultural sources is the Good Agricultural Practices Regulations (SI 101 of 2009), commonly known as the “Nitrates Regulations”. The Nitrates Regulations provide statutory support for good agricultural practice to protect waters against pollution. The Regulations require a “National Action Programme” of measures aimed at protecting waters from pollution, and they introduced a binding code of good agricultural practice, which is applicable to all farmers. The Nitrates Regulations represent a major step forward in protecting waters from agricultural sources of pollution and are expected to deliver significant improvement in water quality when fully effective. For further information see Section 5.2.3, Controls of Agricultural Sources of Pollution, in the final Plan.

The following *Relevant Actions* are listed under the Nitrates Regulations in Appendix 5 of the final Plan:

> *"Review the nitrates National Action Programme to determine its effectiveness, including Agricultural Catchment Programme studies, in consultation with all interested parties. Ensure implementation of the National Action Programme.*
>
> *Monitor as necessary for the purposes of the Regulations. Provide recommendations and direction to local authorities with respect to monitoring, inspections and measures.*
>
> *Carry out monitoring to establish the extent of pollution in surface and groundwaters attributable to agriculture and determine trends in the occurrence and extent of such pollution. Carry out farm inspections (to coordinate with other farm inspection programmes)".*

The Agricultural Catchments Programme (ACP) is an important component of the National Action Programme. Its main purpose is to provide a scientific evaluation of the effectiveness of the National Action Programme measures and where necessary to underpin the basis for any modifications of the measures that might be required to achieve Water Framework Directive water quality objectives. The ACP is an agri-environmental and socio-economic research programme at the catchment scale supported by a team of scientists, advisors and technicians and managed by Teagasc, which will initially run for a four-year period (2008 –2011). Six agricultural catchments are being intensively managed and monitored nationally. None of these are located in the North Western IRBD. The catchments were selected to represent various typical agricultural enterprise types and typical environmental risks to groundwater and surface water. Two of these catchments contain a high proportion of tillage. One of these is located on free-draining soils where the greatest risk is of nitrogen loss through leaching and the other is located on heavier soils where phosphorus loss through surface run-off is more likely. There are four grassland-dominated catchments. One of these involves high risk of nitrogen loss, while the other three relate predominantly to risk of phosphorus loss (with varying levels of risk of nitrogen loss).

The ACP is intended to identify challenges in implementation of the National Action Programme and will provide a basis for modifications to the programme and/or recommendations for new agricultural measures for the protection of water, where necessary. (Further information is available at: http://www.teagasc.ie/agcatchments/).

It should be noted that the objectives for improvement/protection of status in all waterbodies remain the overriding driver in what actions are ultimately applied with regard to agricultural pressures and that in some areas, even with the full implementation of the Nitrates Regulations and the National Action Programme, it is unlikely that the objective of Good Status for groundwater and/or surface waters will be met by the 2015 deadline and the need for additional actions will arise. The nature and

extent of such measures or actions will be considered when the findings of the Agricultural Catchment Programme studies start to become available in 2012.

Challenges to improvements in water quality status in some waterbodies include slow natural rates of water quality recovery, which may extend up to 20 years, and certain ground conditions that cause groundwater bodies to be vulnerable to pollution from nutrient inputs from agricultural activities. Time extensions for achieving water quality objectives have been applied to waters in such areas in order to provide adequate time to investigate the extent of impacts, to identify and implement appropriate management measures and to allow time for water quality to recover. The need for extended timescales has been acknowledged in Table 4.5 of the final Plan for waterbodies where pressures from agriculture have been identified.

With regard to additional actions that may be taken outside of the NAP to address agricultural pressures, the following is included in Appendix 5 of the Final Plan, "*Consider increasing farm inspections in karst areas with turloughs and piloting of environmentally friendly farming scheme Map turloughs' zones of contribution*".

Response – Forestry: With regards to the measures to address forestry issues, submissions were divided between those that felt that the measures detailed in the draft Plan were either not restrictive enough or were too restrictive. Those that felt they were too restrictive indicated that measures were based on limited studies and should only be introduced following catchment-specific evaluations of the cost-effectiveness of the proposed measures. The alternative viewpoint is that all measures should be implemented. Particular issues highlighted included acidification and the implications of the requirement for replanting after felling under the Forestry Act 1946.

With regard to the measures proposed to address pressures from forestry, a full analysis of all peer reviewed literature was undertaken as part of the Forest and Water POM studies and additional research on a national scale was undertaken for acidification, eutrophication and sedimentation pressures. The proposed forestry measures were identified by a Working Group comprising of experts from Forest Service, Coillte Teoranta, COFORD, NPWS, EPA, Central Fisheries Board (now Inland Fisheries Ireland), Local Authorities, RBD Consultants and International Experts and Academics. The measures identified were supported by the research and literature surveys undertaken by UCD and UCC as part of the measures development and establishment of cause and effect. The Working Group recognised that some of the proposed measures would require trial at a catchment scale to determine their effectiveness. Some further research is being undertaken under the HYDROFOR Project, which will assess the effectiveness of some of the measures at catchment scale.

In addition, to strengthen sustainable forestry management, a new Forestry Bill, replacing the 1946 Forestry Act, has been drafted (see Section 5.2.7 of the final Plan for further detail). In addition, Aerial

Fertilisation Regulations (2006-2007) were introduced to control nutrient pollution from the aerial application of fertilisers to forests and in March 2008 the Minister for Agriculture, Fisheries and Food and the Minister for Environment, Heritage and Local Government published guidelines for the protection of Natura 2000 sites designated for the protection of Freshwater Pearl Mussel populations from forestry activities.

Response – Water Charging: With regards to water charging, in a press statement of 25 January 2010, the Minister for Environment, Heritage and Local Government announced plans to bring proposals to Government regarding the installation of water meters to 1.1 million homes connected to the public water mains supply across the country. Following the phased installation of water meters, households will be charged for water services based on usage, in line with the government commitment. The statement went on to say that, "The Department is currently examining the various options to ensure the delivery of the metering programme in the most cost effective manner, but it is expected that the roll-out of meters will begin next year". In the statement the Minister noted that, "The metering system will allow for much better network management by local authorities, and it should also help consumers adjust their consumption patterns", and that, "international experience of reductions in water consumption would indicate that there can be significant water savings arising from the installation of meters. A recent report for the UK Government found average savings of 16 per cent per household accrued from the installation of meters." This action is included in Appendix 5 of the final Plan under *Cost Recovery for Water Services*.

Response – Invasive Alien Species: This threat has been dealt with in the Plan in Appendix 5 by inclusion of measures on introduction of new regulations under the Wildlife Act to control introduction or possession of any species of flora or fauna which may be detrimental to native species and supporting of measures being developed by the national alien species study (conducted by QUERCUS) together with local investigations at district level. It is noted that the NPWS and the Environment and Heritage Service in Northern Ireland jointly commissioned the 'Invasive Species in Ireland Project' in 2006 (http://www.invasivespeciesireland.com/). Management and contingency plans have been produced for the most high risk species. Awareness raising campaigns to all users of water bodies forms a major component of these management and contingency plans which are required to prevent the spread of non-native invasive.

5.6 ADDITIONAL PRESSURES AND ISSUES

Key Issue: A number of submissions identified pressures or issue areas which they felt were not adequately addressed or not given enough attention. Specific areas highlighted were climate change, aquaculture, coastal and marine waters, wetlands and alien/invasive species.

Response: Between publication of the draft plan and the final plan, new and/or extended sections have been added in order to address the following issues:

- Sustainable use of pesticides;
- Landfills and contaminated lands;
- Aquaculture;
- Pressures on coastal waters;
- Invasive alien species;
- Peat extraction; and
- Climate change.

In response to comment that there is a lack of specific measures to address wetlands, please note that these are addressed through a number of avenues in the final Plan:

- The Planning and Development Act 2010, which includes important new provisions in support of the WFD, removes the exemption status for infill of wetlands carried out under the Land Reclamation Act. Other forms of planning exemption for wetland infill will be restricted or removed in forthcoming amendments to the Planning Regulations;
- Sustainable catchment-based flood management measures are under consideration in the Plan and include reconnecting wetlands and riparian ecosystems to river channels and floodplain reclamation and restoration. These potential measures would alleviate flood and drought effects and have ancillary benefits for climate change adaptation, biodiversity and nutrient attenuation;
- The final Plan also proposes further targeted research, such as a study assessing disposal options for treated wastewater from single houses in low permeability soil/subsoil settings, and highlights the need for coordination between river basin management planning and sustainable flood management; and
- Wetlands may also have a role to play in the protection of high quality waters which may require additional measures.

Also, please see **Section 5.7** of this document with regards to coordination of the WFD with the EU Floods Directive, which should also address management of wetland areas in the context of mitigation of flood risk.

Recommendation: *It is suggested that as a support to these measures, specific research into the functioning and importance of wetlands be included in the Research Programme proposed in Section 5.3 of the final Plan.*

5.7 INTEGRATION WITH THE EU FLOODS DIRECTIVE

Key Issue: A number of submissions highlighted the need to integrate the EU Floods Directive with the WFD and its River Basin Management Plans.

Response: 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. the 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 to recognise the link to the Floods Directive, the RBMP and POM have addressed 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, the final Plan does not address specific measures to combat or reduce flooding from a socio-economic perspective. These potential impacts will be addressed under Flood Management Plans as part of the implementation of the Floods Directive, which is currently ongoing.

Section 6.1.2 of the final Plan notes that a 2004 report from Ireland's Flood Policy Review Group set out a new policy on the management of flood risks, which is consistent with the Floods Directive (2007/60/EC). This includes the preparation of catchment based Flood Risk Management Plans that will set out the long-term strategy and a prioritised set of measures for managing flood risks, both structural and non-structural. In line with the Floods Directive, work is already underway in some catchments with Catchment Flood Risk Management Plans (CFRAMP) being prepared. The requirements of the WFD present constraints and opportunities for flood risk management as the actions recommended within the CFRAMP must not cause deterioration of existing status or prevent the achievement of Good Status in waterbodies, as required under the WFD.

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.

5.8 ENFORCEMENT

Key Issue: A number of submissions highlighted concerns with regards to enforcement of existing water protection legislation, including the 11 Directives listed in the WFD. Several submissions noted that achievement of the water quality objectives in the Plan relies heavily on the implementation of

these 11 Directives, for example the Habitats Directive, which, in some cases, has been limited to date.

Response: Between publication of the draft Plan and the final Plan, a new chapter (Chapter 7) has been added which relates to overall implementation. Chapter 7 of the final Plan acknowledges that delivery of the RBMP will be challenging, with responsibility for implementation of the plans currently assigned across a range of organisations with no single body having ultimate responsibility. An RBD can cover the areas of responsibility of a large number of governmental bodies, including crossing international boundaries as is the case in the North Western IRBD. Furthermore, implementation of many of the measures necessary to achieve the objectives of the Plan is the responsibility of national rather than local authorities.

Chapter 7 recognises enforcement of existing legislation across local, regional and national levels is key to successful implementation of the Plan and that as it moves into the implementation stage there is a need to strengthen and adjust the existing administrative structures. Recommendations in relation to revised structures for water management have been put forward over the past two years by the OECD, Forfas and in the report of the Special Group on Public Service Numbers and Expenditure.

Chapter 7 of the Plan notes that in the short-term, funding will continue to be provided to support the RBD Offices so that these can coordinate the efforts of the various authorities to oversee, manage, enforce and report on the implementation of the plans, with the National Advisory Committee continuing to exercise an oversight role.

Against this background, the Department of Environment, Heritage and Local Government will review by end 2010 the governance and structures for implementation of the river basin management plans. This review will include consideration of inspection and enforcement. As one of the key challenges will be implementation and enforcement of WFD requirements over a wide range of public bodies, it is important that structures resulting from the review have a clear RBD remit and be provided with the resources and statutory power to oversee and enforce implementation over all relevant public bodies.

For the purpose of promoting consistency in environmental regulation and enforcement, local authorities, the Environmental Protection Agency and the Department of Environment, Heritage and Local Government are also jointly involved in the preparation of guidance and training for local authority personnel through the Environmental Services Training Group (ESTG). Guidance and training currently being developed includes: (a) the authorisation of discharges to water and sewer under the Water Pollution Acts; and (b) protocols for agricultural inspections and enforcement. Other guidance and training will be prepared as appropriate.

For further information as to which bodies are currently responsible for enforcement of existing water protection legislation please see Appendix 5 of the final Plan.

5.9 INTEGRATION BETWEEN SEA/HDA AND PLAN

Key Issue: Comments were received stating that the integration between the Plan and the SEA/HDA process was not highlighted.

Response: The SEA and HDA were ongoing throughout the development of the RBMP for the North Western IRBD, with the SEA, HDA and Plan teams working together closely to identify potential environmental issues/constraints at the earliest possible stage in the Plan making process.

The SEA and HDA teams were involved in the:

- Development of the alternatives considered in the draft RBMP, SEA and HDA;
- Early identification of environmental sensitivities in the North Western IRBD in order to amend the draft RBMP and to avoid impacts on the environment;
- Recommendation of mitigation measures to address the potential impacts arising from the alternatives considered in the draft RBMP and POM;
- Development of a monitoring plan to track the environmental performance of the final RBMP once implemented;
- Review of submissions; and
- Screening of proposed changes to the final RBMP to determine if further significant environmental effects are likely to arise.

The SEA team initially produced a document, '*A Working Approach for the Development and Assessment of Alternatives*' which was circulated to the SEA Steering Group for consideration and in order to generate debate and discussion on the reasonable alternatives available for consideration. A workshop was subsequently held with the Plan Team to determine the level of detail contained within the alternatives and to discuss how the alternatives would be dealt with in the SEA.

To assist in Plan development, the SEA team provided an initial high-level review of the main alternatives to highlight key environmental issues going forward and to address the potential impacts arising from the alternatives being considered. Following more detailed assessment of the suite of measures from the draft Plan, an extensive list of mitigation measures was proposed for incorporation in the final RBMP and POM for the North Western IRBD. These mitigation measures were based on the findings from both the SEA and the HDA. To address integration of the SEA / HDA findings into the Final Plan, a section on SEA (Section 6.1.4) has been included in the final Plan. This summarises the processes and recognises the 84 mitigation measures which were recommended. These have been broadly categorised as:

- Requirement for Environmental Assessment at the project level where measures were anticipated to impact on EU Designated sites and on built heritage in particular;
- Recommendations for changes to land-use planning;
- Recommendation for education and awareness campaigns to inform stakeholders of how they are impacting on our waters and what they can do to mitigate their impacts;
- Guidance to assist sector specific changes;
- Requirement to take account of cumulative impacts in nutrient planning and loading;
- Measures to contribute to climate change abatement including use of renewable energy;
- Recognition that pollution pathways other than water should be considered; and
- Further studies to inform information gaps and assist in monitoring.

While the measures have not been directly included in the Plan, the Plan does make a clear link to a *summary of SEA mitigation measures* on www.wfdireland.ie. A clear link is also provided to a *targets and indicators document* also on www.wfdireland.ie. These will be used to monitor the impact of the plan on the wider environment. In addition, a reference has also been made to SEA mitigation within each of the Water Management Unit Action Plans.

6 HOW ENVIRONMENTAL CONSIDERATIONS & CONSULTATIONS HAVE BEEN TAKEN INTO ACCOUNT IN THE FINAL PLAN

6.1 ENVIRONMENTAL CONSIDERATIONS

The SEA process took place in conjunction with the preparation of the Plan and the HDA. Thus, from the outset, considerations of the environmental consequences of the alternatives have been taken into account. At a formal level the process involved a series of workshops, presentations, discussions and meetings between the SEA, HDA and Plan Teams as well as with statutory consultees and non-statutory stakeholders and organisations. This iterative process ensured that the SEA/HDA and the preparation of the Plan were well integrated in order to meet the environmental objectives and the objectives of the Plan (**Figure 6.1**).

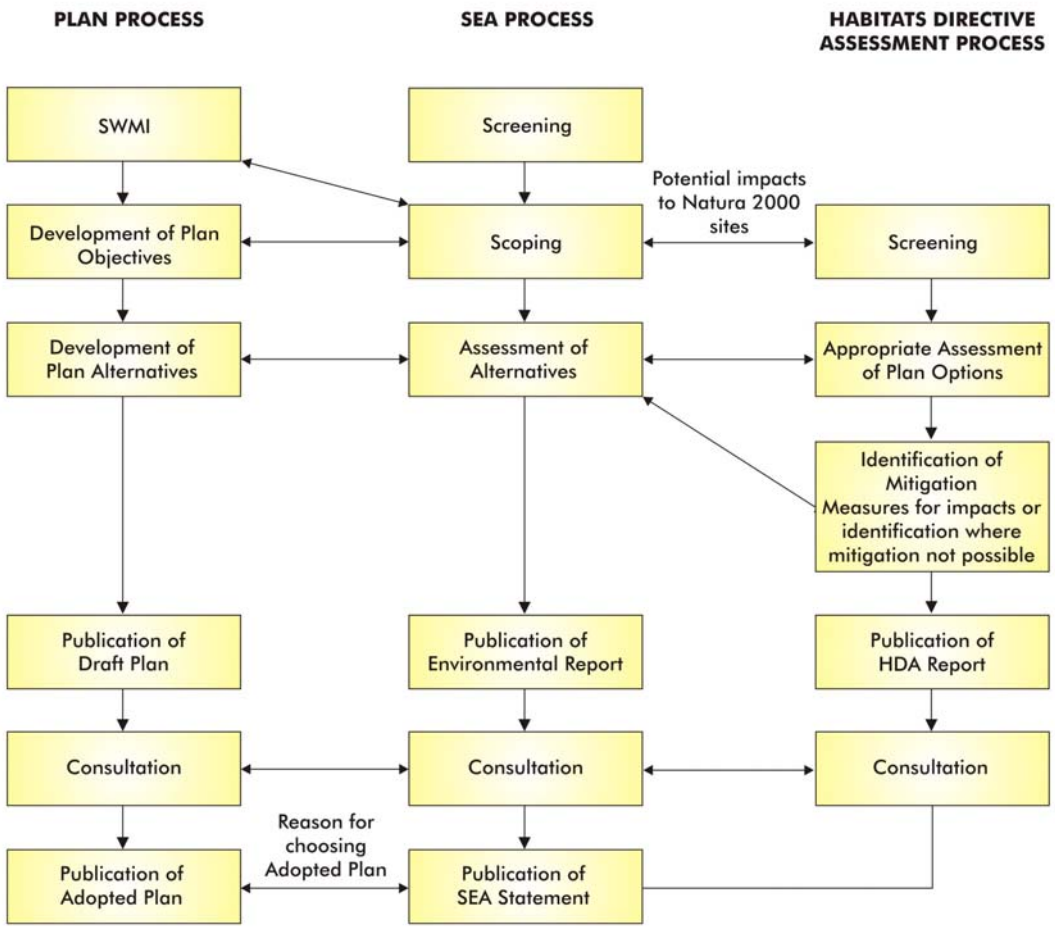

Figure 6.1 Integration of the SEA/HDA and preparation of the RBMP and POM

6.2 SUMMARY OF THE SEA ASSESSMENT

6.2.1 Assessment Methodology

The approach used for the assessment in the SEA is termed an 'objectives led assessment'. In this case, each of the alternatives considered was tested against defined SEA Environmental Objectives (**Box 6.1**), which are separate to the Plan objectives and cover each of the SEA environmental topic issues from the legislation, e.g. population, biodiversity, material assets, etc. A matrix format was used for the assessment, which permitted a systematic approach and comparison of alternatives.

Box 6.1: Environmental Objectives

Objective 1	**BFF**	Prevent damage to terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.
Objective 2	**P**	Contribute to sustainable development.
Objective 3	**HH**	Protect and reduce risk to human health in undertaking water management activities.
Objective 4	**S**	Avoid damage to the function and quality of the soil resource in the River Basin District.
Objective 5	**W**	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.
Objective 6	**AQ**	Minimise emissions to air as a result of Plan activities.
Objective 7	**C**	Minimise contribution to climate change by emission of greenhouse gasses associated with Plan implementation.
Objective 8	**MA1**	Maintain level of protection provided by existing morphological infrastructure, e.g. flood defences, coastal barriers, groynes, etc.
Objective 9	**MA2**	Provide new and upgrade existing water management infrastructure to protect human health and ecological status of water bodies.
Objective 10	**MA3**	Support economic activities within the District without conflicting with the objectives of the WFD.
Objective 11	**MA4**	Protect water as an economic resource.
Objective 12	**CH**	Avoid damage to cultural heritage resources in the River Basin District.
Objective 13	**L**	Avoid damage to designated landscapes in the River Basin District.

***Key**: BFF – Biodiversity, Flora and Fauna; P – Population; HH – Human Health; S – Soils; W – Water; AQ – Air Quality; C – Climatic Factors; MA – Material Assets; CH – Cultural Heritage; L – Landscape*

The main alternatives scenarios considered for assessment in the SEA were:

a) Business as Usual, i.e. implementation of the 11 Existing Directives listed in Article 10 and part A of Annex VI of the WFD (along with other existing water quality legislation). In the Ireland portion of the draft RBMP for the North Western IRBD these were termed *Basic Measures* and are now referred to as Relevant Actions in the final Plan;

b) Business as Usual Plus, i.e. as above but with other required measures noted in Article 11(3) of the WFD, also termed *Other Basic Measures* in the Ireland portion of the draft North Western Plan, now referred to as Relevant Actions in the final Plan; and

c) Additional Measures, termed *Supplementary Measures* in the Ireland portion of the draft North Western Plan now referred to as Additional Actions in the final Plan.

As the preparation of the draft Plan for the North Western IRBD was carried out at the same time as the other seven plans for the island of Ireland, it was considered appropriate by the SEA Team that all of the proposed measures be considered in the SEA, as most of these could be useful in the North Western IRBD. This allowed the North Western IRBD Plan Team to consider adding other measures to the final RBMP and POM without triggering the need to put the Environmental Report out for additional public consultation. It is acknowledged that a few of the measures are only applicable in their specific jurisdiction, e.g. legislation; therefore, a reference to the source jurisdiction for each measure was included for clarity and can be found in Tables 8.3 to 8.14 of the Environmental Report. It should be noted that there are also measures included and assessed in the SEA that did not originate in any of the Plans (e.g. WW6), but which the SEA Team considered to be valid alternatives. SEA Measure WW6 'Reduction in pollution at source through education campaigns' has been incorporated in the Plan through the inclusion of public awareness and targeted education campaigns as part of the Relevant Actions to be carried out under the Water Policy Regulations (SI 722 of 2003 as amended) and the National Water Conservation (Leakage Reduction) Programme. Further details can be found in the final Plan in Appendix 5 - 'North Western IRBD Action Programme'.

Prior to carrying out the assessment, the Business as Usual Measures were sieved to focus on elements that could be reasonably assessed. The Business as Usual Plus measures were all assessed; however, this was confined to qualitative assessment due to lack of specific detail, which would allow quantification. The Additional Measures were also sieved to determine which were suitable for assessment. Commentary on why assessment was not considered appropriate for a particular measure is provided in Tables 8.3 to 8.14 and Section 9 of the Environmental Report.

6.2.2 Overall Summary of Assessment

For convenience, a summary of the assessment contained within the SEA is presented in **Appendix A**. It should be noted that only those measures included in the draft Plan for the NWIRBD are included. The full assessment can be found in Tables 9.1 to 9.12 of the main volume of the Environmental Report and the Appendix to Chapter 9 of the Environmental Report.

6.2.3 Summary of Cumulative and Synergistic Impacts

The primary cumulative/synergistic impacts identified include improvements in water quality leading to positive cumulative impacts to aquatic biodiversity, flora and fauna, both within EU designated sites and the IRBD as a whole. Negative cumulative impacts to air quality and climate have been identified due the potential for a number of alternatives to result in increased emissions to air from transport-related activities and processing of waste materials, e.g. sludge. However, some of this can be offset by use of renewable energy sources and capture of CH_4 for reuse as a fuel source.

Also, a number of measures call for the construction of new or upgraded infrastructure. Cumulatively, the increased energy use from these projects could result in increased emissions of GHG (greenhouse gasses), potentially contributing to climate change. This cumulative impact could be mitigated through the use of renewable energy to fuel new infrastructure projects. In addition, new or upgraded infrastructure could result in potentially cumulative negative impacts to biodiversity, landscape and cultural heritage if these are sited poorly. Consideration of the wider environment prior to siting new infrastructure will greatly reduce this potential cumulative impact.

A number of the physical modification measures have considerable potential to improve the environment individually or cumulatively if implemented correctly; however, the potential for negative cumulative impacts to cultural heritage, landscape and biodiversity from these measures is dependant on the methodology in which they are implemented.

The cost associated with implementation of many of the measures could result in potential cumulative negative impacts to both individuals and local authorities, for which no mitigation may be available. However, cumulative positive impacts would be experienced by those economic sectors reliant on good water quality (residential, tourism, angling, etc.).

In addition, some of the measures may result in changes in land use or development patterns. While, these changes are expected to make a significant contribution to sustainable development in the North Western IRBD, they could also result in cumulative negative impacts. For example, changes could occur in the composition of rural communities should new generations of families that have resided in areas historically, no longer be able to continue to build individual residences on the family holding due to restrictions on siting of on-site wastewater treatment systems. In addition, limitations on forestry in sensitive areas could impact on the economic value of forests as well as reduce the potential for carbon sequestration, cumulatively impacting on Ireland's climate change commitments.

6.2.4 Summary of Secondary or Indirect Impacts

Secondary impacts to biodiversity could result due to the physical and / or chemical alteration of habitats resulting in loss or change to flora and fauna currently present. This is particularly important for birds that may feed on biomass generated by nutrient output from wastewater treatment facilities, industry or farming. Changing the nutrient output or the physical setting may cause a change in available food sources, ultimately leading to the loss of the bird species from the area.

Also, changing the management of land through fencing, set-aside or buffer strips may indirectly impact on protected flora and fauna dependent on the current regime. This would be true for corncrakes, which are ground nesting birds that rely on winter flooding and a mowing regime for survival, or meadow barley, which is a plant that relies on a level of grazing in order to outcompete other non-native species. Indirect positive impacts may also occur in relation to soil biodiversity, particularly with alternatives that limit erosion, soil loss and remediate land contamination.

Secondary impacts to population may result as a number of measures will guide land use planning, thereby contributing to sustainable development. All of the measures are designed to improve water quality, which also contributes to sustainable development.

Improvements to water quality will indirectly impact on human health in relation to protection of drinking waters, bathing waters and shellfish waters. Improvements in septic tank management and upgrades to treatment facilities will also indirectly impact on population through reduced odour nuisance.

Soils are one of the pathways for movement of water and as such they can be indirectly impacted by many of the measures discussed. Indirect positive impacts to soils are likely from measures designed to reduce farming pressures, improve nutrient balances and prevent erosion. Measures to prevent pollution of waters by chemicals will also improve soil quality and function.

Air quality has the potential to interact with other environmental receptors, principally human health and climate. Increased treatment requirements may increase emissions to air from treatment and disposal facilities locally, e.g. dioxins from incineration; however, air quality emissions would be subject to Emission Limit Values (ELVs) set out in IPPC and/or Waste licenses. Emissions to air from transport also have the potential to indirectly impact on air quality and climate through release of GHG.

Alternatives directed at improving water quality through upgrade of wastewater treatment infrastructure or reducing loading can indirectly impact on material assets by improving efficiency of existing infrastructure and providing new infrastructure. Negative indirect impacts are likely for some economic activities currently using or discharging to water but positive impacts will also be experienced by other economic activities dependent on clean water, e.g. angling, tourism etc.

6.2.5 Mitigation Required

As part of the Environmental Report, an extensive list of mitigation measures was proposed for incorporation in the final RBMP and POM for the North Western IRBD. These mitigation measures were based on the findings from both the SEA and the HDA. These are broadly categorised as:

- Requirement for Environmental Assessment at the project level where measures were anticipated to impact on EU Designated sites and on built heritage in particular;
- Recommendations for changes to land-use planning;
- Recommendation for education and awareness campaigns to inform stakeholders of how they are impacting on our waters and what they can do to mitigate their impacts;
- Guidance to assist sector specific changes;
- Requirement to take account of cumulative impacts in nutrient planning and loading;
- Measures to contribute to climate change abatement including use of renewable energy;
- Recognition that pollution pathways other than water should be considered; and
- Further studies to inform information gaps and assist in monitoring.

The North Western IRBD Plan team considered these mitigation measures during the consultation period and an extensive list of mitigation measures has now been included as part of the North Western IRBD plan by provision of a summary of SEA mitigation measures on www.wfdireland.ie and reference to this supporting document in Section 6.1.4 of the final Plan. A total of 84 mitigation measures have been referenced in the Plan, including a number of measures identified during the HDA.

Inclusion of the mitigation measures identified during the SEA and HDA has allowed integration of sustainability objectives in the decision-making process. The inclusion of the mitigation from the SEA and HDA also recognises the multiple stakeholders in the district and provides a focussed agenda to help achieve a balance between land uses that are not always compatible.

6.3 INFLUENCE OF THE SEA/HDA PROCESS DURING PLAN PREPARATION

The SEA and HDA were ongoing throughout the development of the RBMP and POM for the North Western IRBD, with the SEA, HDA and Plan teams working together closely to identify potential environmental issues/constraints at the earliest possible stage in the Plan-making process. The SEA and HDA Teams were involved in the:

- Development of the alternatives considered in the draft RBMP and POM, SEA and HDA;
- Early identification of environmental sensitivities in the NWIRBD in order to amend the draft RBMP and POM and to avoid impacts on the environment;
- Recommendation of mitigation measures to address the potential impacts arising from the alternatives considered in the draft RBMP and POM;
- Development of a monitoring plan to track the environmental performance of the final RBMP and POM once implemented; and
- Screening of proposed changes to the final Plan to determine if further significant environmental effects are likely to arise.

The SEA process has ensured that potential environmental impacts (both positive and negative) associated with the implementation of the RBMP and POM for the North Western IRBD have been given due consideration in the preparation of the Plan. **Table 6.1** shows how environmental considerations and the input of the SEA/HDA have been taken into account in the final RBMP and POM.

Table 6.1 How Environmental Considerations Have Been Taken into Account in the RBMP

Environmental Consideration	How has this been accounted for in the Plan?
Identification of environmental constraints in the NWIRBD	Through refinement of measures at an early stage.
Identification of extra measures	Identification of SEA Measure WW6, which includes provision for '*Reduction in pollution at source through education campaigns*', which will be implemented within the RBMP through the inclusion of public awareness and targeted education campaigns as part of the Relevant Actions to be carried out under the Water Policy Regulations (SI 722 of 2003 as amended) and the National Water Conservation (Leakage Reduction) Programme.
Recommendation of mitigation measures to address impacts on the wider environment	The mitigation measures from both the SEA and the HDA that are relevant to the measures brought forward into the final RBMP and POM have been included in a summary document on the website www.wfdireland.ie.
Required Environmental Monitoring Programme	The environmental monitoring programme required by the SEA has been included as a supporting document to the Plan on the website www.wfdireland.ie. See **Section 8** of this document for further detail on the contents of the monitoring programme. It should be noted that the propsed Environmental Monitoring Programme has been aligned with the existing WFD monitoring programme, where possible, in order to ensure monitoring programme efficiency and ease of data gathering.

6.4 CHANGES TO THE PLAN BASED ON CONSULTATION

The main change between the draft and final Plan has come in the form of the Plan's layout and presentation. Following close of the consultation period it was considered that amendments to the Plan were required to make it more accessible and transparent for its users. As such, there is now a

significant difference between the presentation of the draft and final versions of the Plan. However, the measures and actions which underlie the Plan have not changed significantly, but rather are presented differently. For example, the terms Basic and Supplementary are no longer widely used in the Plan document to define the proposed measures; however, many of the background documents used as part of development of the plan as well as the basic legislative requirements remain the same. Additional legislation has also come on stream since the publication of the draft Plan (see Chapter 5 of the final Plan), and more is expected in future, which means the measures available for improvement in water quality status will continue to evolve as the Plan is implemented.

Additionally, between publication of the draft Plan and preparation of the final Plan a detailed assessment was made of the expected timescales for recovery of waters following implementation of measures. This assessment indicated that longer recovery timescales can be expected for a larger number of water bodies. In the draft plan 87% of rivers and canals, 99% of lakes and reservoirs, 91% of estuaries, 48% of coastal waters and 100% of groundwaters were expected to achieve good status by 2015. It is now expected that the good status will be achieved by 2015 in 70% of rivers and canals, 75% of lakes and reservoirs, 32% of estuaries, 30% of coastal waters and 100% of groundwaters. During the lifetime of the Plan, objectives will continue to be reviewed, and may need to be amended, where significant new information on status, pressures or recovery rates becomes available.

While these changes are significant in terms of presentation and level of ambition, it is not considered that they would result in further significant impacts outside of those already identified in the SEA. Therefore, further assessment is not considered to be required at this time. However, it should be noted that projects arising out of implementation of legislation should be screened for the requirement for EIA and HDA. The mitigation measures included in the Environmental Report, and now as part of the final Plan, highlight the need for consideration of project level environmental assessment for a number of different types of projects.

7 PREFERRED SCENARIO AND REASONS FOR CHOOSING THE FINAL PLAN

Chapter 5 of the final Plan sets out the measures to be taken to achieve the water quality objectives listed in Chapter 4 of the final Plan. Many of the measures set out in Chapter 5 are already provided for in national legislation and are currently being implemented. These include, for example, the Urban Waste Water Treatment Regulations 2001 to 2010 and the Good Agricultural Practice for the Protection of Waters Regulations of 2009. Others measures have been recently introduced (for example new Bathing Water Regulations, 2008) or are under preparation (for example proposed authorisation regulations for abstractions and physical modifications). A full and detailed list of measures is provided in Appendices 4 and 5 of the final Plan and there is more information about the measures in the *national programme of measures background document* and also the suite of *programme of measures — technical studies background documents* where the specific measures for key water management issues are explained (available on www.wfdireland.ie).

As part of the Plan-making process, information on water quality status, objectives and measures in the North Western IRBD has been compiled for smaller, more manageable geographical areas than the overall river basin district; these are termed water management units (WMUs). There are nineteen water management units (WMUs) in the North Western IRBD, which represent smaller river and lake basins where management of the pressures, investigations and measures will be focussed and refined during implementation of this plan. In addition, action plans focusing on groundwater and a transitional and coastal water management have been prepared for the North Western IRBD. The full set of detailed water management unit action plans are available in the action plan background documents that accompany the final Plan and are also available online at www.wfdireland.ie and www.nwirbd.com.

The WMU action plans are the basis for detailed implementation programmes, which will guide and monitor the progress of Plan implementation between 2009 and 2015. The principal measures identified in WMU action plans to address the key issues in the North Western IRBD include:

- Wastewater treatment plant discharge licensing and prioritised upgrade and operational improvement of some plants;
- Licence review and enforcement regarding industrial activities and trade discharges;
- Farm inspections and enforcement under the Good Agricultural Practice Regulations;
- Monitoring, inspection and enforcement of standards relating to the operation of unsewered property wastewater treatment systems;
- Compliance with codes of practice and Forest Service Protocol in the forestry sector;

- Implementing Freshwater Pearl Mussel sub-basin plans (available at www.wfdireland.ie) for the following six areas: Leannan, Glaskeelan, Clady, Owencarrow, Owenea and Eske;
- Implementing Shellfish Waters Pollution Reduction Programmes (available at www.wfdireland.ie) for the following twelve sites: Donegal Bay, Inver Bay, McSwynes Bay, Loughros Beg, Gweebara Bay, Trawenagh Bay, Dunglow, Gweedore Bay, Sheephaven, Lough Swilly, Trawbreaga Bay and Mulroy Bay;
- Appropriate regulation of future activities such as abstraction schemes or physical modification schemes;
- Coordination of public authority actions and education and awareness activities where appropriate to engage stakeholders and implement actions in a collaborative and proactive manner; and
- An environmental research programme and investigations to include: verification of impacts on some waters and the identification and piloting of a number of new management measures.

This application of measures to address the specific pressures acting on each WMU is the preferred scenario in the final Plan. This approach/scenario has been selected for the final Plan as it reflects the overall structure of the Water Framework Directive by: understanding the specific pressures acting on the individual waterbodies; taking account of the relative importance of each pressure; identifying the measures that will address the specific problems; and taking account of the cost and effectiveness of each measure. In this way a detailed profile and plan for each of the WMUs has been developed and can be applied in the most efficient and effective manner.

It should be noted that alternatives considered were predominantly based on their ability to achieve the WFD objective of good status, rather than on their potential to result in negative impacts on the environment. This is because of the inherent positive impacts on the environment in the areas of water quality, human health, population, etc. which accompany the proposed alternatives due to their basic function of improving ecological status. Where the potential for negative impacts was identified by the SEA for a selected alternative, the inclusion of mitigation measures to alleviate these impacts was considered sufficient to address these. It is worth noting that none of the proposed alternatives were found to result in negative impacts to such an extent that they were recommended for exclusion from the Plan by either the SEA or HDA processes.

The Plan has been developed through consultation and engagement with interested parties. It is intended to continue to work in partnership with organisations to help deliver the environmental objectives set out in the Plan in a coordinated way. In particular the North Western IRBD includes 58 cross-border surface waters shared with Northern Ireland. It is important that efforts to protect shared waters are coordinated between the two jurisdictions. There has been a high level of coordination in developing these plans and this will be continued throughout the implementation phase.

8 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE IMPLEMENTATION OF THE ADOPTED PLAN

8.1 INTRODUCTION

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify, at an early stage, any unforeseen adverse effects due to implementation of a Plan or Programme, and to be able to take remedial action. Monitoring is carried out by reporting on a set of indicators, which enable positive and negative impacts on the environment to be measured. Environmental targets and indicators were developed during the SEA and the preparation of the RBMP and POM (refer to Table 10.1 of the Environmental Report). The Environmental Monitoring Programme is based on these indicators and is discussed in more detail below. It is useful to note here that the monitoring programme currently being carried out under the WFD will form a substantial element of the Environmental Monitoring Programme required under the SEA; thereby ensuring that the Environmental Monitoring Programme will be implemented and data will be gathered regularly.

It should be noted that the success of the RBMP and POM in moving water bodies toward achieving the objectives of the WFD, including achieving good status by 2015 and beyond, will be related to the speed at which the measures considered are implemented as well as choosing, as a priority, measures which result in the greatest benefit in the shortest time frame. For example, education and awareness campaigns, when implemented correctly, can provide good results, within short-time frames, for relatively minimal monetary investment.

8.2 RESPONSIBILITY FOR MONITORING

Unlike most plans that are adopted, in this case there isn't one single authority tasked with the implementation of the RBMP and POM for the North Western IRBD. Instead implementation of the RBMP and POM for the North Western IRBD will be carried out by a number of different public authorities, each of which is responsible for different elements of the Plan. The key parties in the implementation of the Plan are:

- The local authorities in the NWIRBD (Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo), which acted jointly to make the plan; Donegal County Council, as the coordinating local authority in the District will aim to coordinate the work of the authorities and public participation in the district and to coordinate work with the Northern Ireland Environment Agency;

- The Environmental Protection Agency, which is responsible for reporting to the EU Commission, coordinating activities at national level and certain other tasks such as assigning status, monitoring programmes and review of the plan;
- The Department of Environment, Heritage and Local Government which has a coordinating role in relation to implementation of the Water Framework Directive, and through the Local Government Fund and Water Services Investment Program plays a significant role in determining priority for investment in infrastructure and the availability of resources to local authorities;
- Other public authorities identified under the 2003 Water Policy Regulations, which are required to exercise their functions in a manner which is consistent with the objectives of the river basin management plan; and
- The Water Framework Directive National Advisory Committee, which will oversee implementation of the plan at national level. It is chaired by the Department of Environment, Heritage and Local Government and involves representatives from the Department of Agriculture, Fisheries and Food, the Environmental Protection Agency, the City and County Managers Association (representing local authorities) and other Government Departments as appropriate.

As a number of public authorities will be participating in implementation of the Plan, there isn't an obvious choice for the assignment of responsibility for carrying out the Environmental Monitoring Programme; however, there are a number of options available during the first round of monitoring. The responsibility could be assigned to the EPA in their guise as the competent authority for the North Western IRBD concerning reporting to the European Commission. Alternately, submissions have suggested the establishment of a RBD authority to coordinate implementation of the Plan. In addition, the Water Framework Directive National Advisory Committee will oversee implementation of the river basin management plans at national level and includes representatives from each of the public authorities responsible for plan delivery.

In any event, it is key that either an island-wide or RBD-based body or group is assigned to carry out the monitoring of the effects of the RBMP on the wider environment. This will ensure that cumulative impacts across a large geographic scale can be identified. In addition, this body or group would be responsible for determining the frequency for reporting on the monitoring programme as well as the ongoing review of monitoring targets and indicators. This body or group would also be tasked with determining when remedial action would be required should impacts be identified. Because of this it is recommended that this decision be made in the near term in order to allow monitoring to begin within the first year of implementation and the results included as part of the interim report describing progress in the implementation of the planned programmes of measures, which will be submitted to the EU Commission within three years of adoption of the Plan. This will allow appropriate remedial action to be taken should any unforeseen environmental effects be identified. In addition, it is

recommended that incorporation of the Environmental Monitoring Programme into one of the existing web-based reporting systems being used for the WFD also be considered, as this would provide a central and easily accessible database for collation of monitoring information.

8.3 SOURCES OF INFORMATION FOR 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 RBMP and POM. **Table 8.1** presents the Environmental Monitoring Programme to track progress towards achieving the strategic environmental targets, and includes sources of relevant information. The required Environmental Monitoring Programme has been incorporated into the supporting targets and indicators document, which is provided on the website www.wfdireland.ie.

As shown in **Table 8.1**, the majority of information required is already being actively collected (under the WFD and other programmes), though not all of this is being gathered and reported on at a national level. It should be noted that the monitoring programme has been designed to be flexible for the express purpose of allowing the use of alternate indicators should more relevant data sources become available during the implementation and monitoring of the plan. Again it should be noted that the monitoring programme currently being carried out under the WFD will form a substantial element of the Environmental Monitoring Programme required under the SEA; thereby ensuring that the Environmental Monitoring Programme will be implemented and data will be gathered regularly.

Table 8.1 Required Environmental Monitoring Programme for the North Western IRBD RBMP

Target	Indicator	Data Availability, Source and Frequency
BFF: Halt spread of Alien Species and their associated impact to the aquatic environment.	Geographical spread of Alien Species in the District.	National Invasive Species Database from Invasive Species Ireland (joint project between NPWS and NIEA). Compilation is ongoing.
BFF: Halt deterioration of habitats or their associated species due to water quality related issues by 2015, in line with the Water Framework Directive.	Interim Indicator: Number of Margaritifera Plans put in place. Long Term Indicator: Status of EU Protected Habitats and Species. Long Term Indicator: Condition of Selection Features in sites designated for nature conservation (SACs, SPAs, Ramsar and NHAs).	Species Action Plan. NPWS (in preparation). Not currently compiled. The Status of EU Protected Habitats and Species in Ireland report. NPWS. Published every 6 years.
P: Provide adequate water and wastewater treatment infrastructure capacity to all urban and suburban areas (cities, towns and villages) within the District by 2015.	Number of Section 140 motions under the Planning and Development Act 2001 tabled and passed for development in urban and suburban areas where adequate water and wastewater treatment infrastructure capacity is not in place.	Summary of Annual Planning Statistics. An Bord Pleanála. Published annually.
P: Strictly control rural development with the provision of individual wastewater treatment units in accordance with the EPA Guidelines Manual in relation to the provision of wastewater treatment to single houses.	Number of Section 140 motions under the Planning and Development Act 2001 tabled and passed for development in rural areas where individual wastewater treatment are not provided in accordance with the EPA Guidelines Manual in relation to the provision wastewater treatment to single houses.	Summary of Annual Planning Statistics. An Bord Pleanála. Published annually.
P: Carry out 100% inspection, of all individual septic tanks or any other privately owned treatment unit to identify those not functioning properly.	Number of inspections carried out.	Not currently compiled. Likely would be carried out by Local Authorities.
HH: All drinking water areas (including groundwater), as identified on the register of protected areas, to achieve good status, or maintain high status, by the deadlines set in the final Plan.	Interim Indicator: Compliance with Drinking Water Standards. Long Term Indicator: Parameters to be measured in accordance with the environmental quality standards to determine Good Status.	The Provision and Quality of Drinking Water in Ireland Report. EPA. Published every 1 to 2 years. The Provision and Quality of Drinking Water in Ireland Report. EPA. Published every 1 to 2 years.
HH: All bathing waters, as identified on the register of protected areas, to achieve good status, or maintain high status, by the deadlines set in the final Plan.	Interim Indicator: Compliance with Bathing Water Standards.	The Quality of Bathing Water in Ireland. EPA. Published annually.

Target	Indicator	Data Availability, Source and Frequency
	Long Term Indicator: Parameters to be measured in accordance with the environmental quality standards to determine Good Status.	The Quality of Bathing Water in Ireland. EPA. Published annually.
HH: All economic shellfish waters, as identified on the register of protected areas, to achieve good status, or maintain high status, by the deadlines set in the final Plan.	Interim Indicator: Compliance with the Quality of Shellfish Water Regulations. Long Term Indicator: Parameters to be measured in accordance with the environmental quality standards to determine Good Status.	Water Quality in Ireland report. EPA. Published every 1 to 2 years. Water Quality in Ireland report. EPA. Published every 1 to 2 years.
HH: All water bodies designated for salmonids, as identified on the register of protected areas, to achieve good status, or maintain high status, by the deadlines set in the final Plan.	Interim Indicator: Water quality in designated salmonid waters. Long Term Indicator: Parameters to be measured in accordance with the environmental quality standards to determine Good Status.	Water Quality in Ireland report. EPA. Published every 1 to 2 years. Water Quality in Ireland report. EPA. Published every 1 to 2 years.
S: Achieve soil phosphorus levels in line with Teagasc targets for agricultural land.	Interim Indicator: Soil Phosphorus levels.	National Soils Database. Teagasc and EPA. Updated as data becomes available.
S: Achieve risk reduction targets as detailed in the Soil Directive for areas identified as at risk (not yet established).	Long Term Indicator: Monitoring programme as established under the requirements for the Soil Directive (once established).	Not yet established.
W: No deterioration in status of waters currently with high or good status (WFD Objective).	Interim Indicator: Interim Water status. Long Term Indicator: Water status in 2015 report.	Interim Water Status in 2011 Report. EPA. Water Status Report to published in 2015 as part of second RBMP cycle. EPA.
W: Restoration to good status of waters currently at moderate, poor or bad status (WFD Objective).	Interim Indicator: Interim Water status. Long Term Indicator: Water status in 2015 report.	Interim Water Status in 2011 Report. EPA. Water Status Report to published in 2015 as part of second RBMP cycle. EPA.
W: Progressively reduce chemical pollution in waters (WFD Objective).	Interim Indicator: Interim Water status. Long Term Indicator: Water status in 2015 report.	Interim Water Status in 2011 Report. EPA. Water Status Report to published in 2015 as part of second RBMP cycle. EPA.
W: Limit pollution inputs to groundwaters and prevent deterioration (WFD Objective).	Interim Indicator: Interim Water status. Long Term Indicator: Water status in 2015 report.	Interim Water Status in 2011 Report. EPA. Water Status Report to published in 2015 as part of second RBMP cycle. EPA.

Target	Indicator	Data Availability, Source and Frequency
AQ: Minimise total emissions to air associated with nutrient management.	Distance / number of vehicle trips used to transport nutrients; to be used as a proxy indicator for emissions associated with nutrient management activities, such as removal by tanker of slurry in areas of nutrient surplus.	Not currently compiled – monitoring of this would need to be integrated into the Waste Licences for operators of these activities. This information could be included in the Annual Environmental Report for each licensed facility.
AQ: Compliance with odour criteria to prevent deterioration in amenity beyond the site boundary as set out in license for new or upgraded wastewater infrastructure.	Number of complaints received related to odour.	Monitored by the EPA as part of the IPPC license process. This information is usually included in the Annual Environmental Report for each licensed facility.
AQ: Compliance with odour criteria to prevent deterioration in amenity beyond the site boundary due to changes in industrial practices due to plan implementation.	Number of complaints received related to odour.	Monitored by the EPA as part of the IPPC license process. This information is usually included in the Annual Environmental Report for each licensed facility.
C: Use BAT, including renewable energy, to minimise GHG from new or upgraded wastewater infrastructure in line with Ireland's commitments to reduce GHG emissions under the Kyoto Protocol.	Calculated CO_2 equivalent in tonnes from new or upgraded water infrastructure, e.g. WWTP, including emissions associated with the digestion and / or incineration of sludge.	To be calculated based on changes in water infrastructure at the interim review in 2011 and the second RBMP cycle in 2015.
C: Use BAT, including renewable energy, to minimise GHG from changes in industrial practices due to plan implementation in line with Ireland's commitments to reduce GHG emissions under the Kyoto Protocol.	Calculated CO_2 equivalent in tonnes due to changes in industrial practices.	To be calculated at the interim review in 2011 and the second RBMP cycle in 2015 based on changes in industrial practices, records of which are held as part of the IPPC licence process by the EPA.
C: No net loss of CO_2 sequestering vegetation due to changes in forestry practices as a result of Plan activity.	Calculated CO_2 sequestering potential of forest vegetation based on forest cover.	CO_2 sequestration potential could be sourced from the National Council for Forest Research and Development or similar source. Land cover information to be sourced from Ireland's Corine Land Cover project.
MA1: No increase in the amount of infrastructure at risk from flooding as a result of Plan activities. In this case the length of road and rail infrastructure at risk will be used as a proxy indicator for infrastructure in general.	Interim indicator: Number of Flood Risk Management Plans prepared in accordance with the Floods Directive (2007/60/EC). Long Term Indicator: Length of road and rail infrastructure at risk from flooding.	Information on number prepared to be sourced from the OPW. Information flood risk to be sourced from the OPW.
MA2: Increase investment in water management infrastructure.	Water services investment expenditure per annum.	To be sourced from the Finance Department annual expenditure figures.
MA2: Full compliance with the requirements of the Urban Wastewater Treatment Directive and its associated regulations.	Number of exceedances of the standards contained in the Urban Wastewater Treatment Directive and its associated regulations.	Urban Waste Water Discharges In Ireland Reports. EPA. Published every two years.

Target	Indicator	Data Availability, Source and Frequency
MA3: Minimise impacts to economic activity due to Plan implementation without conflicting with the objectives of the WFD.	Percent change in land cover types due to Plan implementation.	Land cover information to be sourced from Ireland's Corine Land Cover project.
MA4: Achieve sustainable use of water in the context of maintaining its economic benefit.	Change in economic value of water relative to the baseline report: Economic Analysis of Water Use in Ireland.	Economic studies carried out as a part of the plan making process during the second cycle of river basin management planning.
CH: No physical damage or alteration of the context of cultural heritage features due to Plan activities.	Changes in the condition of monuments on the Record of Monuments and Places (RMP) due to Plan implementation. Number of listed structures at risk due to Plan implementation.	The Archaeological Survey monitoring programme, Ireland. DEHLG. Updated on an ongoing basis. Buildings at Risk Register. Heritage Council Ireland. Updated on an ongoing basis.
L: No damage to designated landscapes as a result of Plan implementation.	Number of water and wastewater treatment plants sited in landscapes with a high sensitivity to change. Percentage changes in land cover types in areas with a high sensitivity to change.	Data on number of new wastewater treatment plants to be sourced from Local Authorities (not currently compiled centrally). Ireland's Corine Land Cover project.

***Key**: BFF – Biodiversity, Flora and Fauna; AQ – Air Quality; C – Climate; W – Water; MA – Material Assets; L – Landscape; P – Population; HH – Human Health; S – Soils; CH – Cultural Heritage*

9 CONCLUSION AND NEXT STEPS

The SEA and HDA processes carried out during the preparation of the RBMP and associated POM for the North Western IRBD have ensured that the potential significant environmental impacts associated with implementation of the Plan have been identified and that they have been given appropriate consideration. Consultation on the draft Plan, Environmental Report and HDA Report has further contributed to the development and finalisation of the adopted RBMP for the North Western IRBD.

It is envisaged that monitoring and reporting of environmental impacts, both positive and negative, resulting from implementation of the RBMP and POM for the North Western IRBD will continue over the course of the 5-year cycle for the Plan. It should be noted that the monitoring programme has been designed to be flexible for the express purpose of allowing the use of alternate indicators should more relevant data sources become available during the implementation and monitoring of the plan. The data collected can then be used in the next cycle to facilitate a review of progress on implementation and effectiveness of the RBMP and POM and to feed into the SEA for the second cycle of the RBMP process. It is also envisaged that results of the SEA monitoring programme will be included as part of the interim report describing progress in the implementation of the planned programmes of measures, which will be submitted to the EU Commission within three years of adoption of the Plan. This will allow appropriate remedial action to be taken quickly should any unforeseen environmental effects be identified.

As previously noted the monitoring programme currently being carried out under the WFD will form a substantial element of the Environmental Monitoring Programme required under the SEA; thereby ensuring that the Environmental Monitoring Programme will be implemented and data will be gathered regularly. In addition to those Indicators included in the WFD monitoring programme, the majority of the remaining Indicators in the Environmental Monitoring Programme are currently compiled/reported on as part of other processes. As such only a small number of Indicators would require new data gathering to be carried out.

The following outstanding issues remain to be addressed with regard to the SEA and Plan-making processes:

- Designation of an organisation/authority to coordinate the Environmental Monitoring Programme as identified by the SEA. See **Chapter 8** of this document for further detail as to the options available;
- Lack of information available to carry out a water body level assessment of the impact of the proposed measures as part of the SEA process. It is envisioned that this level of assessment will possible during subsequent cycles of river basin planning and should be considered for inclusion in future SEAs should the relevant information be available; and

- Lack of a clear implementation plan for the overall Plan-making process. However, the information provided in Chapter 7 of the final Plan indicates that the DEHLG will review by end 2010 the governance and structures for the implementation of all of the RBMPs in Ireland.

10 ADDENDUM TO THE ENVIRONMENTAL REPORT

This is the addendum to the Environmental Report for the draft River Basin Management Plan and associated Programmes of Measures for the North Western International River Basin District, hereafter referred to as the draft Plan. This document serves several purposes: a) to provide clarification and/or additional information following requests in the submissions received during the 6-month consultation period on the draft Plan and Environmental Report; and b) to identify where the Environmental Report has been updated in response to submissions received during the public consultation period, with the exception of minor amendments, clarifications and typographical corrections. It should be noted that this document supplements and should be read in conjunction with the Environmental Report.

It should be noted that the clarifications and additional information contained herein (shown in *italicised text*) have been provided in order to increase the usefulness of the document for the public and decision makers but are not to such an extent that it will require changes to the content or outcome of the assessment contained within the Environmental Report.

10.1 AMENDMENTS AND ADDENDA BY CHAPTER

10.1.1 Non-technical Summary

Additional information is provided on p. iii regarding the timelines for the second and third River Basin Management Plan cycles.

> *In certain circumstances the draft Plan considers the timeline horizons of 2021 and 2027, being the end of the second and third 6-year Plan cycles, respectively. These longer-term horizons are necessary where good status or good potential or indeed LSO (less stringent objectives) cannot be achieved by 2015 or where measures to achieve these are deemed technically infeasible or disproportionate in cost.*

Additional detail regarding issues of concern relating to water in the NWIRBD has been added on p. v.

> The Plan outlines measures to tackle key water pressures in the District. Some issues of concern in the District 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 *from wastewater treatment plants, licensed discharges, mines, landfills, quarries and contaminated lands*; agriculture; unsewered properties; forestry; physical modifications; and abstraction.

Clarification is provided in Table 2 on p. vii under the heading of 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 *raw water for drinking and other purposes* 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.

On p. viii, the reference to the 2007 Significant Water Management Issues or SWMI document has updated to *Water Matters – Have Your Say*. This update has been made throughout the document.

On p. xiv, the reference to Appropriate Assessment has been changed for clarity to: *the assessment carried out under Article 6 of the Habitats Directive (92/43/EEC).* This update has been made, where applicable, throughout the document. A reference has also been added regarding the provision of the recommended mitigation measures in **Chapter 10** of the Environmental Report.

10.1.2 Chapter 1: Introduction

Reference to information sources regarding delineation of the NWIRBD boundary is provided on p. 2:

> *For information on how the boundary of the North Western IRBD was determined see the information on the North Western IRBD website (www.nwirbd.com) and the document Working Together – Managing Our Shared Waters for the North Western IRBD.*

Clarification is provided on p. 2 regarding the local authorities within the NWIRBD.

> *The NWIRBD incorporates all of Donegal and parts of Counties Londonderry / Derry, Tyrone, Fermanagh, Longford, Cavan, Monaghan, Sligo and also part of Leitrim. The local authorities for Counties Donegal, Cavan, Leitrim, Longford, Monaghan and Sligo as well as the Northern Ireland Environment Agency are the competent authorities for the NWIRBD, with Donegal County Council the co-ordinating authority for the NWIRBD.*

Clarification is provided on p. 3 regarding the coordinating local authority (for Ireland) within the NWIRBD.

> *Donegal County Council is the co-ordinating authority for the NWIRBD.*

10.1.3 Chapter 2: Methodology

Additional information is provided in Table 2.1 on p. 8 regarding the timelines for the second and third River Basin Management Plan cycles.

> The RBMP and POM will cover the period from 2009 up to 2015, with an interim review after three years. *However, the Plan also considers the horizons of 2021 and 2027, which are the end of the second and third 6-year plan cycles, respectively*.

Additional information on the report *Preparing for Climate Change in Northern Ireland* has been added to Section 2.3.1.2 on p. 9.

> *The report* Preparing for Climate Change in Northern Ireland*, published by the Department of the Environment and the Scotland and Northern Ireland Forum for Environmental Research (2007) reviewed the potential impact of climate change in Northern Ireland and makes recommendations for adaptation. This report includes an initial assessment of threats to water management and resources in Northern Ireland and was used in the draft Plan to identify generic actions to address the impact of climate change on the water environment. These generic actions ensure that waters are protected from deterioration due to climate change and that climate change factors are taken into account both in terms of mitigation and adaptation when developing and implementing measures to improve the water environment.*

Additional information on the Floods Directive has been added to Section 2.3.1.3 on p. 10, including information on its timing of transposition into the national legislation and a brief summary of what is required as part of its implementation.

> *The Directive came into force in November 2007 and is required to be transposed into law before 26 November 2009. The Directive requires Member States to first carry out a preliminary assessment by 2011 to identify the river basins and associated coastal areas at risk of flooding. For such zones they would then need to draw up flood risk maps by 2013 and establish flood risk management plans focused on prevention, protection and preparedness by 2015. The Directive applies to inland waters as well as all coastal waters across the whole territory of the EU.*

Clarification as to the type of assessment carried out under the Habitats Directive is provided in Section 2.4 on p. 13.

> *It is important to note that the phrase 'Appropriate Assessment' is sometimes used more loosely to refer to the whole process set out under Articles 6(3) and 6(4) of the Habitats Directive. Therefore, it is important to note that in this case the term Habitats Directive*

Assessment will be used, not 'Appropriate Assessment' (which refers to Stage 2 in the sequence under Habitats Directive Assessment). A *Habitats Directive Assessment* of the RBMP and POM was carried out in parallel with the SEA and Plan processes, with the findings of the *Habitats Directive Assessment* used to guide the development of the alternatives to be considered as part of the SEA.

10.1.4 Chapter 3: Description of the Plan

Clarification is provided in Section 3.1 on p. 15 regarding the composition of the draft RBMPs for international river basin districts:

In the case of the international river basin districts, the draft RBMPs are comprised of both the draft Plan summary documents for Northern Ireland and Ireland as well as a 'Working Together' document which describes the coordination that has taken place between the two jurisdictions and the commitment to future coordination.

Clarification has been provided in Table 3.1 on p. 22 as to the names of the electronic reporting tools being used as part of Plan implementation. In all cases the term 'Electronic Reporting Tool / WFD Interactive Web Map' has been changed to *Water Maps (Ire) / WFD Interactive Web Map (NI)*.

10.1.5 Chapter 5: Baseline Environment

For clarification the full reference to the EPA's 2007 and 2005 *Water Quality in Ireland: Key Indicators of the Aquatic Environment* reports has been added to Section 5.3.3.1 on p. 43.

Amendments have been made to the information on cross border lakes on p. 43:

The District also includes Lough Macnean (*9.8km^2*) and Lough Melvin (22km^2), *both of which are cross border lakes.*

Additional information regarding the potential impacts to water quality from landfills, quarries, mines and contaminated sites has been added to Section 5.3.3.4 on p. 47:

Waste disposal sites (including old un-lined landfills), quarries, mines, gasworks sites and industrial lands produce lesser discharges to waters than wastewater plants and industries; however subsurface residues or waste products *from previous activities may have seeped into the ground* and continue to threaten groundwater and surface waters. *The key threat to waters from these sites is potential contamination from pollutants (mainly dangerous*

substances, for example metals and fuel). These chemicals may travel through groundwater and enter surface waters, affecting the quality of both, damaging aquatic plants and animals and impairing water uses.

More detail regarding the sources of nutrient enrichment in water from agriculture has been added to Section 5.3.3.4 on p. 47:

These are enrichment of water by nutrients (phosphorus and nitrogen), *from substances such as fertilisers (both organic and inorganic) as well as erosion of nutrient enriched soils*, and organic pollution from animal slurry/manure and silage effluent.

Additional information regarding the potential impacts to water quality from forestry activities has been added to Section 5.3.3.4 on p. 48.

Forestry can cause also acidification of water through the capture of sulphur and nitrogen compounds from the atmosphere by forest canopies. Precipitation becomes more acidic as it passes through the canopies into the ground below and may worsen the chemical balance of receiving waters. Nutrient enrichment can also occur through the introduction of extra nutrients, which in naturally nutrient–poor areas, can lead to problems such as algal growth. Road-making and stream crossing as well as felling activities can cause erosion and sedimentation on susceptible soils, reducing water quality. Incorrect pesticide usage can also result in contamination of waters.

Additional detail as to the Air Quality Standards Regulations (Northern Ireland) 2007 has been added to Section 5.3.4.1 on p. 49:

The Department of the Environment in Northern Ireland has also published the Air Quality Standards Regulations (Northern Ireland) 2007, *which implemented the requirements of the fourth daughter Directive on heavy metals and PAHs (polycyclic aromatic hydrocarbons) as well as replacing the Air Quality Limit Values Regulations (Northern Ireland) 2002 (S.R. 2002 No. 94) and the Air Quality (Ozone) Regulations (Northern Ireland) 2003 (S.R. 2003 No. 240), which implemented the third daughter directive on ozone*.

Additional detail as to the number and location of continuous air monitoring stations has been added to Section 5.3.4.1 on p. 50.

There is continuous monitoring carried out throughout the island, *with seven monitoring stations in the NWIRBD including Letterkenny, Kilkitt, Derry (four locations) and Strabane*.

Additional detail as to variations in average annual rainfall has been added to Section 5.3.4.4 on p. 52:

Average annual rainfall varies between about 800mm in the southeast and 2,800mm in the northwest.

Further background cultural heritage information is provided in Section 5.3.5.1 on p. 54:

The period when hunter/fishers dominated Europe is known as the Mesolithic. A number of Late Mesolithic sites are located along the lower River Foyle and the coastal zone of the North Western IRBD. During the Mesolithic, people usually moved about following the seasonal migrations of animals like the red deer or attempting to catch fish, such as salmon, in their annual runs upriver.

The second major colonisation of Ireland began with the arrival of new people that changed the face of the landscape through farming. One of the first items of technology introduced by the first farmers was pottery. But by far the most common and spectacular monuments of the Neolithic period are its tombs. There are over 391 court tombs known in Ireland and these occur almost exclusively in the northern half of the island together with examples of portal tombs, such as the example seen at Ballyannon, Co. Donegal, passage tombs and wedge tombs. In addition to tombs, there are other stone monuments that have been erected. The most impressive are the stone circles with one of the main concentrations of these in Ireland found in mid Ulster, with a number also located in the NWIRBD.

More detail regarding water environments as sources of archaeological material has been added to Section 5.3.5.7 on p. 55:

This is particularly important, as water environments are often an important source of previously unknown archaeological material, as they can preserve organic matters often missing from dry-land sites. For example, the rivers of the NWIRBD, including the Erne, are potentially rich in previously unknown archaeological features, as both settlement and ritual activity (in the form of the deposition of artefacts) are often associated with these.

Further information has been added to Section 5.3.8.1 Soils, on p. 61:

In Northern Ireland, the Department of the Environment has proposed the implementation of a contaminated land regime contained in Part III of the Waste and Contaminated Land (NI) Order 1997 to cover the determination and remediation of contaminated land. The regulations, and guidance for their implementation (when published), will bring into force a framework for the identified and remediation of land where contamination causes unacceptable risks. Some 12,000 sites in Northern Ireland have so far been identified as being used for some purpose, which could potentially have caused contamination. The

redevelopment of such land must be carefully managed to ensure that the contamination does not pose a threat to human health and the environment.

Additional information on the report *Preparing for Climate Change in Northern Ireland* has been added to Section 5.4 on p. 67 and 68.

In the areas of water resources and conservation, biodiversity and habitats the potential adaptation strategies identified included:

- *Review of legislation to assess whether it will provide sufficient protection for priority/designated habitats in a changing climate and to identify whether revisions may be required.*
- *Review of monitoring to assess whether existing systems are sufficiently sensitive to the effects of a changing climate and identify where new systems may be required.*
- *Education and awareness: particularly focussed on the human impact on species and habitats and the scale of the likely impacts of a changing climate.*
- *More detailed modelling of impacts on NI water resources, addressing long-term impacts on supplies, environment and water quality.*
- *Further development of adaptive actions already identified, many of which include wider environmental benefits. Some adaptation may be realised through compliance with the Water Framework and Nitrates Directives.*
- *Ensure risks and adaptation are adequately represented within long term planning for water resources. Adaptation costs can be minimised by maintaining and improving current infrastructure.*
- *Changes to the planning processes and regulatory framework for the water sector in NI will provide opportunities for the development of adaptive planning.*

The legends for Figures 5.5, 5.7 and 5.9 have been amended for clarity.

Information regarding the overall ecological status of surface waters and the chemical and quantitative status of groundwaters has been updated since the Environmental Report was published in 2008. The revised status information incorporates monitoring data from 2008 and supersedes the information in Tables 5.6, 5.8, 5.9 and 5.11 and Figures 5.7 and 5.8a and b. See the final River Basin Management Plan for the most recent waterbody status information.

10.1.6 Chapter 6: Review of Relevant Policies, Plans and Programmes

Information has been added to Table 6.2 on p. 86 regarding the Framework Directive on the sustainable use of pesticides.

Human Health	*Framework Directive on the sustainable use of pesticides (Draft)*	*The Directive will establish a framework which will promote 'best practice' in the storage, use and disposal of pesticides, and their packaging. Key features include: the establishment of national action plans; compulsory testing of spray machinery and certification of spray operators, distributors and advisors; a ban (subject to derogations) on aerial spraying; special measures to protect the aquatic environment, public spaces and special conservation areas; minimising the risk of pollution through handling, storage and disposal; and the promotion of Integrated Pest Management (IPM).*	*The measures included under this Directive (once adopted) should be considered for incorporation into the River Basin Management Plan when it is updated in 2015*	*The measures included in the POM include a. suite of measures aimed at maintaining/ improving water body status through the sustainable use of pesticides.*

Information has been added to Table 6.2 on p. 90 regarding the EU Environmental Liability Directive.

Water	*The EU Environmental Liability Directive (2004/35/EC)*	*The main objectives include the application of the "polluter pays" principle for environmental liability. This Directive establishes a common framework for liability with a view to preventing and remedying damage to animals, plants, natural habitats and water resources, and damage affecting the land.*	*The Plan should aim to prevent or remedy damage to animals, plants and natural habitats through interaction with water resources. The impacts of the Plan on these receptors are largely expected to be positive due to the water quality objectives included in the Plan.*	*Many of the measures included in the POM are aimed at reducing pollution discharges to water, in part to prevent and remedy damage to animals, plants, natural habitats and water resources.*

Information has been added to Table 6.3 on p. 96 regarding the European Communities (Environmental Liability) Regulations 2008 (S.I. 547 of 2008).

Water	*European Communities (Environmental Liability) Regulations 2008 (S.I. 547 of 2008)*	*Place obligations on operators to prevent environmental damage and, where such damage has occurred, the operator is required to control, contain, remove or manage contaminants or causes of damage. Give effect to provisions of EU Liability Directive 2004/35/EC.*	*See EU Liability Directive.*	*See EU Liability Directive.*

Information has been added to Table 6.4 on p. 102 regarding the Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland) 2009 (SR 252 of 2009).

Water	*The Environmental Liability (Prevention and Remediation) Regulations (Northern Ireland) 2009 (SR 252 of 2009)*	*Place obligations on operators to prevent environmental damage and, where such damage has occurred, the operator is required to control, contain, remove or manage contaminants or causes of damage. Give effect to provisions of EU Liability Directive 2004/35/EC.*	*See EU Liability Directive.*	*See EU Liability Directive.*

Information has been added to Table 6.4 on p. 103 regarding the Pollution Prevention and Control Regulations (Northern Ireland) 2003 (SR 46 of 2003) as amended.

Water	*The Pollution Prevention and Control Regulations (Northern Ireland) 2003 (SR 46 of 2003) as amended*	*Establish a pollution control system to regulate industrial activities and other installations that have a major impact on the environment. Aim to reduce pollution by monitoring business activities that cause pollution. These regulations implement the EC IPPC Directive (96/61/EC) in Northern Ireland.*	*See EU IPPC Directive.*	*See EU IPPC Directive.*

10.1.7 Chapter 7: Strategic Environmental Objectives, Targets and Indicators

The data source for the Long Term Indicator, "Number of exceedances of the standards contained in the Urban Wastewater Treatment Directive and its associated regulations", for the Material Assets Target of, "Full compliance with the requirements of the Urban Wastewater Treatment Directive and its associated regulations", has been changed from the DEHLG to EPA.

10.1.8 Chapter 8: Alternatives

Table 8.1 has been updated with regards to the implementing legislation for The Plant Protection Products Directive (91/414/EEC).

> IRE: *The European Communities (Authorization, Placing on the Market, Use and Control of Plant Protection Products) Regulations (SI 83 of 2003) as amended SI 320 of 1981 as amended, SI 624 of 2001 as amended, and SI 565 of 2008.*

A reference has been added to Tables 8.3 to 8.13 linking these tables to the appendix to Chapter 8 for additional information on which measures are being considered in each jurisdiction.

10.1.9 Chapter 9: Assessment

A reference has been added to Tables 9.3 to 9.12 linking these tables to the detailed assessment in the Appendix to Chapter 9.

The following summarises the cumulative/synergistic effects identified as a result of Plan implementation. This section should be read in conjunction with Section 9 and the Appendix to Section 9.

The primary cumulative/synergistic impacts that have been identified include cumulative improvements in water quality leading to positive cumulative impacts to aquatic biodiversity, flora and fauna, both within EU designated sites and the RBD as a whole. With regards to negative impacts, cumulative impacts to air quality and climate have been identified due the potential for a number of alternatives to result in increased emissions to air from transport-related activities and processing of waste materials, e.g. sludge. However, some of this can be offset by use of renewable energy sources and capture of CH_4 for reuse as a fuel source.

Also, a number of alternatives call for the construction of new or upgraded infrastructure. Cumulatively, the increased energy use from these projects could result in increased emissions of GHG, potentially contributing to climate change. This cumulative impact could be mitigated through the use of renewable energy to fuel new infrastructure projects. In addition, new or upgraded infrastructure could result in potentially cumulative negative impacts to biodiversity, landscape and cultural heritage if these are sited poorly. Consideration of the wider environment prior to siting new infrastructure will greatly reduce this potential cumulative impact.

A number of the physical modifications alternatives have considerable potential to improve the environment individually or cumulatively if implemented correctly; however, the potential for negative impacts to cultural heritage, landscape and biodiversity from these alternatives is dependant on the methodology in which they are implemented.

The cost associated with implementation of many of the alternatives could result in potential cumulative negative impacts to both individuals and local authorities, for which no mitigation may be available. However, cumulative positive impacts would be experienced by those economic sectors reliant on good water quality (residential, service, tourism, angling, etc.).

In addition, some of the alternatives may result in changes in land use or development patterns. While, these changes are expected to make a significant contribution to sustainable development in the RBD, they could also result in cumulative negative impacts. For example, changes could occur in the composition of rural communities should new generations of families that have resided in areas historically, no longer be able to continue to build individual residences on the family holding due to restrictions on siting of on-site wastewater treatment systems. In addition, limitations on forestry in sensitive areas could impact on the economic value of forests as well as reduce the potential for carbon sequestration, cumulatively impacting on Ireland and Northern Ireland's climate change commitments.

10.1.10 Chapter 10: Mitigation and Monitoring

A reference has been added in Section 10.3 on p. 185 linking the mitigation measures contained in Table 10.2 to the detailed assessment in the Appendix to Chapter 9.

Please see the Appendix to Chapter 9, which provides the detailed assessment of alternatives and the rationale behind the development of these mitigation measures.

10.1.11 Chapter 14: References

Two additional references have been added on p. 203:

Environmental Protection Agency (2005b). The Nature and Extent of Unauthorised Waste Activity in Ireland.

Environmental Protection Agency (2005a). Water Quality in Ireland 2005: Key Indicators of the Aquatic Environment.

10.1.12 Appendix to Chapter 6: Other Plans, Programmes and Policies of Relevance

Information has been added to Table 1 regarding the European Landscape Convention.

Landscape	*The European Landscape Convention (Council of Europe ETS No. 176)*	*Objectives are the protection, management and planning of European landscapes.*	*The impact of the Plan on landscapes is largely expected to be associated with site level impacts (e.g. construction of new infrastructure). The favouring of sites and measures that carry a lower risk of impacts to landscape could be emphasised in the Plan.*	*The requirement to carry out environmental impact assessment, including landscape assessments prior to implementation of specific items in the POM is aimed at addressing the objectives of this Convention.*

11 ABBREVIATIONS

ACP	Agricultural Catchments Programme
CFRAMP	Catchment Flood Risk Management Plans
CIS	Common Implementation Strategy
DAFF	Department of Agriculture, Fisheries and Food
DCENR	Department of Communications, Energy and Natural Resources
DCMNR	Department of Communications, Marine and Natural Resources
DEHLG	Department of Environment, Heritage and Local Government
EIA	Environment Impact Assessment
ELV	Emission Limit Value
EPA	Environmental Protection Agency
ERBD	Eastern River Basin District
ESB	Electricity Supply Board
ESTG	Environmental Services Training Group
EU	European Union
GDA	Greater Dublin Area
GDWSA	Greater Dublin Water Supply Area
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GSI	Geological Survey of Ireland
HDA	Habitats Directive Assessment
IBEC	Irish Business and Employers Confederation
IPPC	Integrated Pollution Prevention and Control
IRBD	International River Basin District
LSO	Less Stringent Objective
NAP	National Action Programme
NBIRBD	Neagh Bann International River Basin District
NERBD	North East River Basin District
NHA	Natural Heritage Area
NI	Northern Ireland
NIEA	Northern Ireland Environment Agency
NPWS	National Parks and Wildlife Service
NRA	National Roads Authority
NWIRBD	North Western International River Basin District
OPW	Office of Public Works
POM	Programme of Measures
RBD	River Basin District
RBMP	River Basin Management Plan

RBMS	River Basin Management System
RMP	Records of Monuments and Places
RPG	Regional Planning Guidelines
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SERBD	South Eastern River Basin District
ShIRBD	Shannon International River Basin District
SPA	Special Protection Area
SWAN	Sustainable Water Network
SWMI	Significant Water Management Issues
SWRBD	South Western River Basin District
UCC	University College Cork
UCD	University College Dublin
WFD	Water Framework Directive
WMU	Water Management Unit
WRBD	Western River Basin District
WSIP	Water Services Investment Programme

APPENDIX A

Summary of Environmental Assessment for Measures included in the Ireland portion of the draft North Western IRBD River Basin Management Plan

Table 1 Key to Assessment of Alternatives

Assessment Symbol	Explanation of Symbol
+	Positive Impact
-	Negative Impact
+ / -	Both positive and negative impacts or unclear in the absence of further detail
0	Neutral or no impact

Table 2 Summary of Assessment: Measures under the Existing 11 Directives and the Other Required Article 11(3) Measures or Basic and Other Basic Measures

Measure	BFF	P	HH	S	W	AQ	C	MA1	MA2	MA3	MA4	CH	L
Review of Licensing Controls (DIR4)	+ / -	+	+	+ / -	+	+ / -	+ / -	0	+	+/-	+	0	0
Changes in Land Use Planning (DIR5)	+ / -	+	+	+ / -	+	+ / -	+ / -	0	+ / 0	+ / -	+	0	0
Infrastructural Requirements (DIR6)	+ / -	+	+	+ / -	+	+ / -	+ / -	0	+	-	+	+ / -	+ / -
Cost recovery for water use & promotion of sustainable water use (WFD1)	+	+	+	+	+	0	+	0	+	-	+	+	0
Protection of Drinking Water Sources (WFD2)	+	+	+	+	+	0	0	0	0	+ / -	+	0	0
Abstraction and impoundment control (WFD3)	+ / -	+	+	+ / -	+	-	-	0	+	+ / -	+	+ / -	+ / -
Point source and diffuse source discharge (WFD4)	+ / -	+	+ / -	+ / -	+	0 / -	0 / -	0	+	-	+	+ / -	+ / -
Controls on physical modifications to surface waters (WFD5)	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -	+ / -
Prevention or reduction of the impact of accidental pollution incidents (WFD6)	+ / -	+	+	+ / -	+	+	0	+	+	+	+	+ / -	+ / -
Authorisation of discharges to groundwater (WFD7)	+	+	+	0	+	0	0	0	0	+ / -	+	0	0
Priority substance control (WFD8)	+ / -	+	+ / -	+ / -	+ / -	+ / -	+ / -	0	+	+ / -	+	+ / -	+ / -
Controls on other activities impacting water status (WFD9)	+ / -	+	+	+	+	0	0	0	0	-	+	0	0

Key: BFF – Biodiversity, Flora and Fauna; AQ – Air Quality; C – Climate; W – Water; MA – Material Assets; L – Landscape; P – Population; HH – Human Health; S – Soils; CH – Cultural Heritage

See Section 9.1 of the Environmental Report for further detail on what is included in DIR4 to 6 and Table 8.2 for further detail on measures WFD1 to 9

Table 3 Summary of Assessment: Supplementary Measures considered in the Ireland portion of the draft North Western IRBD RBMP

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
Wastewater													
WW1: Measures intended to reduce loading to the treatment plant: - Limit or cease the direct importation of polluting matter (e.g. liquid wastes, landfill leachate) - Investigate extent of use and impact of under-sink food waste disintegrators and take appropriate actions - Investigate fats/oils/grease influent concentrations and take actions to reduce FOG entering the collection system - Upgrade and rehabilitate Combined Sewer Overflows (CSOs)	+/-	+	+	+/-	+/-	+/-	+/-	0	+	+/-	+	0/-	0/-
WW2: Impose development controls using a common approach where there is, or is likely to be in the future, insufficient capacity at treatment plants	+	+	+	+	+	0	0	0	+	+/-	+	-	0
WW10: Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive	+/-	+	+	+/-	+	+	-	0	+	+/-	+	0/-	0
WW11: Apply a higher standard of treatment (stricter emission controls) where necessary	+/-	+	+	+/-	+	+	-	0	+	+/-	+	0/-	0
WW12: Upgrade the plant to remove specific substances known to impact on water quality status	+/-	+	+	+/-	+	+	-	0	+	+/-	+	0/-	0
WW13: Install ultra-violet or similar type treatment	+/-	+	+	+/-	+	+	-	0	+	+/-	+	0/-	0
WW14: Relocate the point of discharge	+/-	+	+	+	+	0	0	0	+	+/-	+	0/-	0
Industrial Discharges													
IND6: Introduce Best Available Techniques (BAT) for industrial discharges	+	+	+	+	+	+ / -	+ / -	0	+	+ / -	+	0	0
IND8: Relocate discharge point	+ / -	+	+	+	+	0	0	0	+	+ / -	+	-	0

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
Other sources													
OP5: Undertake remediation projects for prioritised landfills, quarries, mines and contaminated lands, e.g. pollution containment measures and monitoring requirements	+	+	+	+	+	+ / -	+/-	0	0	0	+	+/-	+/-
Agriculture													
AG1: Creation of buffer strips around water bodies to prevent pollutant loss	+/-	+/-	+	+	+	+/-	+/-	0	0	-	+	0	0
AG3: Installation of fencing to prevent livestock access to watercourses	+/-	+/-	+	+	+	+/-	+/-	0	0	-	+	0	0
AG4: Reduction of agricultural intensity, e.g. lower stocking density on land, land reclamation	+/-	+/-	+	+	+	+/-	+/-	0	0	-	+	0	0
AG5: Require nutrient management planning	+	+	+	+	+	+/-	+/-	0	0	-	+	0	0
AG6: Set aside of agricultural lands	+/-	+/-	+	+	+	+/-	+/-	0	0	-	+	0	0
AG8: Increase participation in rural environmental protection schemes / other agri-environment schemes, e.g. NPWS farm plans, particularly in priority catchments and focus advice and regulatory action in areas where there is a lower uptake in agri-environment schemes	+	+	+	+	+	0	0	0	0	-	+	+	0
AG9: Upgrade farm management systems	+	+	+	+	+	+/-	+/-	0	0	-	+	0	0
AG12: Removal by tanker in areas of nutrient surplus	+	-	+/-	+/-	+	-	+/-	0	-	-	+	-	-
AG13: Treatment by digestors in areas of nutrient surplus	+	-	+/-	+/-	+	-	+/-	0	-	-	+	-	-
Wastewater from Unsewered Properties													
UP1: Amend Building Regulations - Code of Practice for single houses - Code of Practice for large systems - Certification of the construction of onsite wastewater treatment systems and percolation areas/polishing filters	+	+	+	+	+	0	0	0	+	-	+	0 / -	0

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
UP2: Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice. Notice to planning authority required immediately prior to the installation of onsite effluent treatment systems including percolation areas and polishing filters.	+	+	+	+	+	0	0	0	+	0	+	0 / -	0
UP8: Enforce requirements for de-sludging and codes of practice	+ / -	+ / -	+ / -	+	+	+ / -	-	0	+	+ / -	+	0 / -	0 / -
UP11: Consider connection to municipal systems	+ / -	+ / -	+ / -	+	+	+	-	0	+	+ / -	+	0 / -	0 / -
Forestry													
F2: Acidification - Avoid or limit (to below critical thresholds) afforestation on 1st and 2nd order stream catchments in acid sensitive catchments	+	+	+	+	+	0	-	0	0	-	+	0	0
F3: Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	+	+	+	+	+	0	-	0	0	-	+	0	0
F4: Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected (that is ensure sampling under high flow conditions) and revise boundary conditions for afforestation in acid sensitive areas.	+	+	+	+	+	0	-	0	0	-	+	0	0
F5: Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	+	+	+	+	+	0	-	0	0	-	+	0	0
F6: Eutrophication and Sedimentation -Change the tree species mix (for example broadleaves) on replanting	+	+	+	+	+	0	-	0	0	-	+	0	0
F7: Eutrophication and Sedimentation - Limiting felling coup size	+	+	+	+	+	0	-	0	0	-	+	0	0
F8: Eutrophication and Sedimentation - Establish new forest structures on older plantation sites (including riparian zones, drainage layouts, species mix, open areas)	+	+	+	+	+	0	-	0	0	-	+	0	0
F11: Pesticide Use - Reduce pesticide usage	+	+	+	+	+	+	0	0	0	0 /-	+	0	0
F12: Pesticide Use - Pre-dip trees in nurseries prior to planting out	+	+	+	+	+	+	0	0	0	0 / -	+	0	0

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
F13: Acidification - Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming)	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F14: Acidification - Manage catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F15: Acidification - Implement measures to increase stream production – for example with native woodland in riparian zones.	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F16: Eutrophication and Sedimentation - Establish riparian zone management prior to clearfelling	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F17: Eutrophication and Sedimentation - Enhance sediment control	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F18: Hydromorphology - Enhance drainage network management – minimise drainage in peat soils	+	+	+	+	+	0	0	0	0	0 / -	+	0	0
F19: Pesticide Use - Develop biological control methods	-	+	+	+	+	+	0	0	0	0 / -	+	0	0
Dangerous Substances													
DS3: Reduction of pollution by control of point sources through use of pollution reduction programmes	+	+	+	+	+	+/-	+/-	0	0	-	+	0	0
DS4: Reduce discharges, losses and emissions from diffuse sources, including in groundwater source protection zones	+	+	+	+	+	+/-	+/-	0	0	-	+	0	0
DS5: Upgrade treatment to remove substances from effluent	+	+	+	+	+	+/-	+/-	0	+	-	+	0	0
DS6: Relocate discharge point	+ / -	+	+ / -	+	+	0	0	0	+	-	+	0/-	0
Physical Modifications													
PM2: Support voluntary initiatives, such as wetlands and Integrated Coastal Zone Management schemes, including through awareness campaigns	+ / -	+	+	0	+	0	+	+/-	0	0	+	0 / -	0 / -
PM6: Channelisation impact remediation schemes, such as re-meandering of straightened channels, reconstruction of pools, substrate enhancement, removal of hard bank reinforcement/revetment or replacement with soft engineering solution	+ / -	0/-	0/-	+ / -	+	0	-	-	0	+ / -	+ / -	0 / -	0 / -

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
PM7: Over-grazing remediation, such as stabilisation of river banks	+ / -	0	0	+	+	0	0	0	0	+ / -	+	0 / -	0 / -
PM9: Strategically appraise significant barriers to fish movement and introduce impassable barriers remediation schemes, such as fisheries enhancement schemes, reopening of existing culverts, removal of impoundment and de-silting of impounded reach, desiliting of affected river reaches, removal of barriers to fish migration, updating of existing fish passes and construction of new fish passes	+ / -	+ / -	+ / -	+ / -	+	0	-	-	0	+ / -	+ / -	0 / -	0 / -
Abstractions													
AB4: Examine compensation flow requirements on regulated rives and maintain minimum flow or flow variability, where applicable, to maintain good hydrological status and support ecology	+	+	+	+	+	0	+	0	0	+	+	+ / -	0
AB6: Develop water budgets	+ / -	+	+	+	+	0	+	0	+	+	+	0 / -	0 / -
AB7: Reduce abstraction demand, e.g. reduce leakage and unaccounted water, modify plumbing codes to support conservation, daily metering of abstracted volumes, implement small schemes with smaller demand	+ / -	+	+	+	+	0	+	0	+	+	+	0 / -	0 / -
AB8: Increase available water, e.g. promote infiltration of runoff, reuse of grey water or treated wastewater, identify and build infrastructure for alternate sources	+ / -	+	+	+	+	0	+	0	+	+	+	0 / -	0 / -
AB9: Water metering and charging programmes for residential users	+	+	+	+	+	0	+	0	+	-	+	0	0
AB10: Reduce abstraction volumes	+ / -	+	+	+ / -	+	-	-	0	+	+ / -	+	+ / -	+ / -
AB11: Altered abstraction timing	+ / -	+	+	+ / -	+	-	-	0	+	+ / -	+	+ / -	+ / -
AB12: Conjunctive use	+ / -	+	+	+ / -	+	-	-	0	+	+ / -	+	+ / -	+ / -
AB13: Provision of additional storage	+ / -	+	+	+ / -	+	-	-	0	+	+ / -	+	+ / -	+ / -
AB14: Direct development to areas where capacity exists and restrict development if abstraction already at capacity	+ / -	+ / -	+ / -	+	+	0 / -	0 / -	0	+	+ / -	+	+ / -	0

Measure	BFF	P	HH	S	W	AQ	CC	MA1	MA2	MA3	MA4	CH	L
Freshwater Pearl Mussels													
FPM1 Unnatural flows	+ / -	+	+	+	+	0	0	0	0	+	+	+ / -	0
FPM 3 Lack of Riparian Buffer Zone	+	+ / -	+	+	+	-	-	0	0	-	+	0	0
FPM 4 Peat Cutting Perpendicular to the River	+	+	+	+	+	0	0	0	0	-	+	0	0
FPM 6 Road and Bridge Construction Adjacent to River	+	+	+	+	+	-	-	0	0	-	+	0	0
FPM 7 Road and Bridge Construction Adjacent to River	+	+	+	+	+	-	-	0	0	-	+	0	0
FPM 9 Channelisation	+ / -	+ / -	+ / -	+	+	0	0	0 / -	0	0 / -	+ / -	0 / -	0 / -
FPM 10 Forestry	+	+	+	+	+	0	-	0	0	-	+	0	0
FPM 11 Forestry	+	+	+	+	+	0	-	0	0	-	+	0	0
FPM 12 Forestry	+	+	+	+	+	0	-	0	0	-	+	0	0
FPM 13 REPS Plans	+	+	+	+	+	+	+	0	0	-	+	0	0
FPM 15 Ditch Management	+	+	+	+	+	+	+	0	0	-	+	0	0
FPM 16 Animal Watering	+	+	+	+	+	+	+	0	0	-	+	0	0
FPM 17 Septic tank survey, database and remediation	+ / -	+	+	+	+	0	0	0	+	-	+	0	0
FPM 18 Washing machine plumbing	+ / -	+	+	+	+	0	0	0	+	-	+	0	0
FPM 19 Municipal and Industrial Discharge survey, database and remediation	+ / -	+	+	+	+	0	0	0	+	-	+	0	0
FPM 21 Catchment Awareness Campaign	+	+	+	+	+	+	+	0	+	+	+	0	0
FPM 22 Catchment Stakeholders Group	+	+	+	+	+	+	+	0	+	+	+	0	0
FPM 23 Leisure management	+	+	+	+	+	0	0	0	0	0	+	0	0
FPM 26 River bed or bank works survey	+ / -	+ / -	+ / -	+	+	0	0	-	0	-	0	0 / -	0
FPM 27 Sand and gravel extraction	+ / -	+ / -	+ / -	+	+	0	0	-	0	-	0	0 / -	0

Key: *BFF – Biodiversity, Flora and Fauna; AQ – Air Quality; C – Climate; W – Water; MA – Material Assets; L – Landscape; P – Population; HH – Human Health; S – Soils; CH – Cultural Heritage*