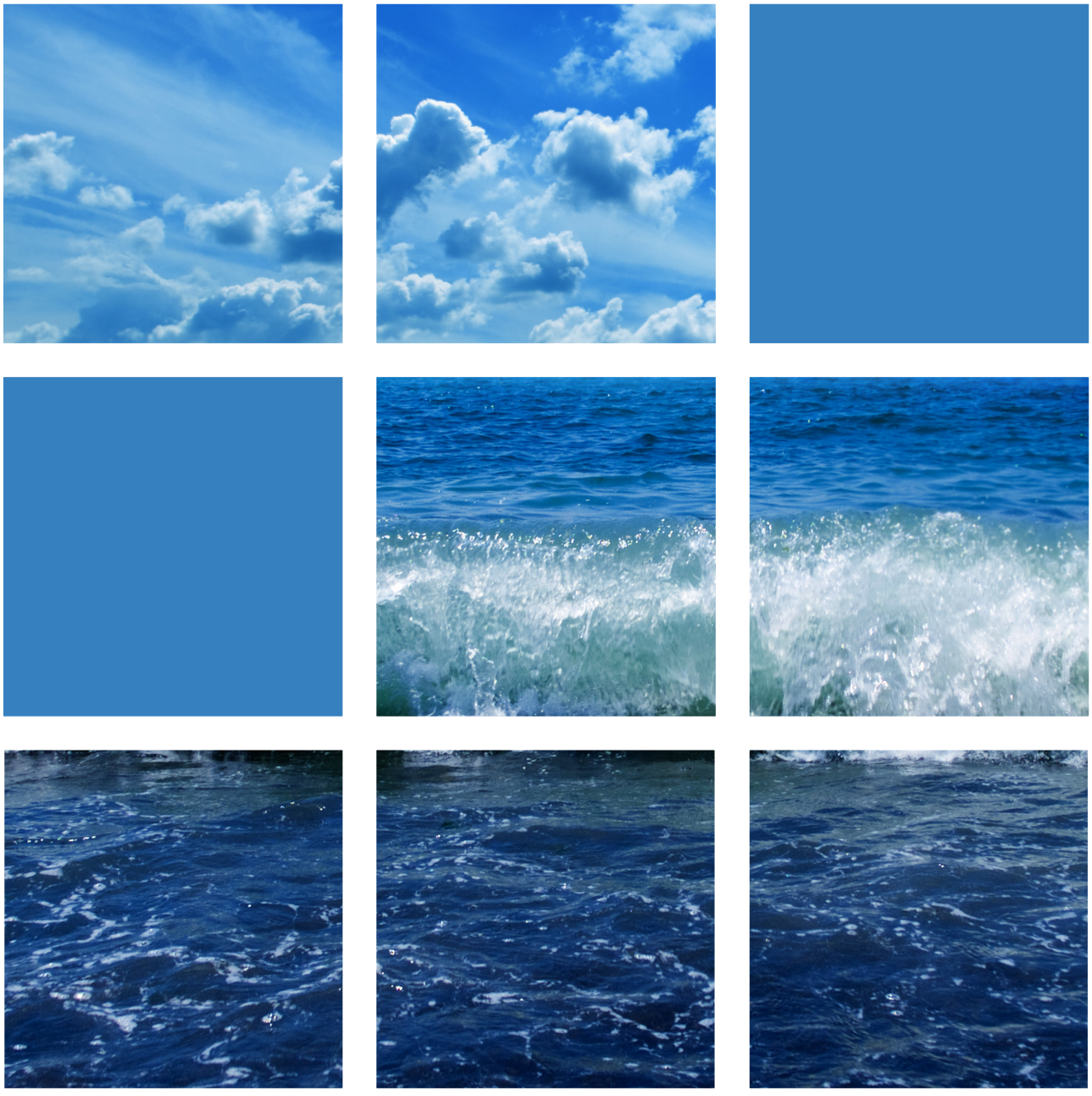
Comhshaol, Oidhreacht agus Rialtas Áitiúil
Environment, Heritage and Local Government

Strategic Environmental Assessment of the proposed Pollution Reduction Programmes for Waters Designated under the EU Shellfish Waters Directive

SEA Statement

Louth and Fingal Region



December 2009

RPS

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1 INTRODUCTION

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA of the Pollution Reduction Programmes (PRPs) for waters designated under the EU Shellfish Waters Directive in the Louth and Fingal region 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 Habitats Directive Assessment have been taken into account by, and influenced, the PRPs.

The competent authority, which is the Department of the Environment, Heritage and Local Government, has prepared the PRPs, and their associated documents, for designated shellfish waters.

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 PRPs for the designated shellfish waters of the Louth and Fingal region, the SEA Environmental Report, the Habitats Directive Assessment Report and the SEA Statement are available for download on the website http://www.environ.ie.

The structure of the SEA Statement is as follows:

1. Introduction
2. Summary of Key Facts
3. Summary of the SEA Process
4. Key Issues Raised in the Submissions
5. How Environmental Considerations and Consultations have been Taken into Account
6. Preferred Scenario and Reasons for Choosing the Adopted PRPs
7. Measures to Monitor Significant Environmental Effects of the Adopted PRPs
8. Conclusion and Next Steps

2 SUMMARY OF KEY FACTS

Title of Programmes:	Pollution Reduction Programmes for the designated shellfish waters at: Balbriggan/Skerries; Carlingford Lough; Malahide; and Dundalk Bay.
Purpose of Programmes:	To fulfil the aims of the EU Shellfish Directive (2006/113/EC), which are to protect or improve shellfish waters in order to support shellfish life and growth, thereby contributing to the high quality of shellfish products directly edible by man.
Competent Authority:	Department of the Environment, Heritage and Local Government.
What prompted the Programmes:	The EU Shellfish Directive (2006/113/EC) requires the preparation of programmes to reduce pollution in designated shellfish waters and to ensure that these designated waters conform, within six years following designation, to the physical, chemical and microbiological water quality standards set out in the Directive. These are the Pollution Reduction Programmes for the designated shellfish waters prepared in response to that requirement for the Louth and Fingal region.
Subject:	Describes the actions that will be used to ensure the necessary protection or improvement of the designated shellfish waters in the Louth and Fingal region.
Period covered:	The PRPs will cover the period 2010 to 2015, at which time the PRPs will be subsumed into the second cycle of River Basin Management Plans, which will be prepared under the EU Water Framework Directive (2000/60/EC). See www.wfdireland.ie for more information on the river basin planning process and its cycles.
Frequency of updates:	The PRPs will be kept under review by the Minister and will be updated and amended as needed from time to time, having regard to water quality conditions within the designated shellfish waters, including changes in water quality in response to the implementation of measures and other factors arising in the catchments that may affect water quality in the designated areas.
Area of Programmes:	These PRPs cover the designated shellfish waters within the Louth and Fingal region as well as their contributing catchments. Within each of the individual Characterisation Reports the extent of the designated shellfish water is outlined on Map 1 while the contributing catchment is shown on Map 2.
Summary of content of Programmes:	The PRPs stem from the work undertaken in the individual Characterisation Reports for each designated shellfish water in the Louth and Fingal region. Each PRP contains measures aimed at addressing a prioritised list of

pressures/impacts/effects on water quality, which has been drawn from the Characterisation Report for the relevant designated shellfish water. The PRP takes this prioritised list and addresses each issue with actions to help ensure that compliance with the relevant water quality standards is achieved or ensured. All of the measures included in the PRPs to address pressures on water quality are included in a supporting national toolkit of measures, which is drawn from the programme of measures contained within Ireland's River Basin Management Plans.

Programme Components The individual PRPs have three components:

- A Characterisation Report which highlights the key and secondary pressures on water quality in the designated shellfish area, within the marine waters in the vicinity of the shellfish area or within the contributing catchment;
- The National Toolkit of Measures which outlines all of the measures available for controlling pressures which impact on shellfish water quality parameters, from which specific measures can be selected to address the pressures on water quality identified in each of the individual Characterisation Reports.
- A Pollution Reduction Programme which details the specific measures selected from the National Toolkit to address identified key and secondary pressures on water quality.

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3 SUMMARY OF THE SEA PROCESS

The Pollution Reduction Programmes (PRPs) for waters designated under the EU Shellfish Waters Directive in the Louth and Fingal region have 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 three statutory consultees for SEA in Ireland as well as the Northern Ireland Environment Agency, the statutory authority in Northern Ireland, and with other stakeholders. The three statutory consultees for SEA in Ireland are the:

- Department of the Environment, Heritage and Local Government (DoEHLG);
- Department of Communications, Marine and Natural Resources (DCMNR) now the Department of Communications, Energy and Natural Resources (DCENR); and
- Environmental Protection Agency (EPA).

Scoping was carried out nationally for all designated shellfish waters within Ireland. Comments received were considered prior to preparation of the individual PRPs and the Environmental Report and are included in Appendix A of the Environmental Report. All of the environmental topics listed in the SEA Directive were scoped in for the assessment of the PRPs for the Louth and Fingal region, with the exception of air quality, which was scoped out as no discernable impact was identified.

3.2 ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL REPORT

The preparation of an Environmental Report on the likely significant effects on the environment of the PRPs for designated shellfish waters in the Louth and Fingal region included consideration of:

- Baseline data relating to the current state of the environment;
- Links between the PRPs and other relevant strategies, policies, plans, programmes and environmental protection objectives;
- Key environmental problems affecting shellfish water quality in the Louth and Fingal region, including existing pressures specific to the individual shellfish waters;
- The likely significant effects of the PRPs 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.

3.3 HABITATS DIRECTIVE ARTICLE 6 ASSESSMENT

In addition to this SEA, there was a requirement under the EU Habitats Directive (92/43/EEC) to assess whether the PRPs for the designated shellfish waters in the Louth and Fingal region have 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 PRPs for the designated shellfish waters in the Louth and Fingal region was carried out under the EU Habitats Directive in conjunction with the SEA and PRP compilation processes, with the findings of the Habitats Directive Assessment (HDA) used to guide the alternatives and mitigation considered as part of the SEA. Consultation on the methodology of approach took place with the National Parks and Wildlife Service during the HDA process.

3.4 CONSULTATION ON DRAFT PRPS, ENVIRONMENTAL REPORT AND HABITATS DIRECTIVE ASSESSMENT

In the legislation, the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No 435 of 2004), consultation is specifically required with the nominated environmental authorities and with the wider public when the Environmental Report and the draft Plan or Programme are put on public display.

Statutory consultation, including transboundary consultation, on the draft PRPs, SEA Environmental Report and the HDA Report took place from 13 November 2009 to 10 December 2009. This was in accordance with consultation required under Article 13 (1 and 2) of S.I. 435 of 2004. A notice was

published in the Irish Independent on 13 November 2009 inviting written submissions in relation to the draft PRPs for the Louth and Fingal region and their associated Environmental Report and HDA Report.

3.5 SEA STATEMENT

The main purpose of the SEA Statement is to provide information on the decision-making process for the PRPs 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 Report, as well as the views of the statutory consultees and other submissions received during consultation, have influenced the preparation of the PRPs for the designated shellfish waters in the Louth and Fingal region. 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 PRPs.

The SEA Statement includes the following information:

- Summary of how environmental considerations have been integrated into the PRPs;
- Summary of how submissions received during consultation have been taken into account in the PRPs;
- Reasons for choosing the recommended options, in light of other reasonable alternatives considered; and
- Measures that are to be undertaken to monitor and mitigate the significant environmental effects of implementing the PRPs.

3.6 ADOPTION OF THE PRPS

The Minister for Environment, Heritage and Local Government signed the PRPs for the designated shellfish waters in the Louth and Fingal region on December 22, 2009. Implementation of the PRPs will be monitored by Water Quality Section of the Department of the Environment, Heritage and Local Government.

3.7 REVIEW OF THE PRPS

The Marine Institute is carrying out a monitoring programme to monitor the condition of waters in the shellfish growing area and to verify compliance, or otherwise with the water quality standards outlined in Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006). The

Marine Institute will submit a report on water quality in respect of the designated area to the Minister each year, and will immediately bring to the attention of the Department of the Environment, Heritage and Local Government any non-compliance with a water quality standard to enable investigation to be undertaken.

The PRPs will be kept under review by the Minister and will be updated and amended as needed from time to time, having regard to water quality conditions within the shellfish growing area including changes in water quality in response to the implementation of measures and other factors arising in the catchment that may affect water quality in the designated area.

The PRPs will be reviewed at intervals not exceeding three years and, where necessary, at lesser intervals if the monitoring data, either from the Marine Institute monitoring programme or other sources such as monitoring carried out under the WFD, indicates deterioration in water quality status or a risk that the objectives or standards laid down in the EU Shellfish Waters Directive (and its associated Regulations) will not be achieved.

4 KEY ISSUES RAISED IN THE SUBMISSIONS

This section contains an overview of the key issues raised in the five written submissions made in response to the draft PRPs for the designated shellfish waters in the Louth and Fingal region as well as their SEAs and HDAs. The content of all written submissions were considered during the finalisation of the PRPs for the designated shellfish waters in this region. Written submissions were made by the organisations listed below.

- Northern Ireland Environment Agency
- National Parks and Wildlife Service
- Environmental Protection Agency
- Bremore Ireland Port Ltd
- Aquaculture Initiative EEIG

The following sections highlight the key issues raised in the written submissions.

4.1 TRANSBOUNDARY CONSULTATION

Queries were received as to why sources of pollution on the Northern Ireland side of Carlingford Lough are not addressed in the PRP.

In this initial phase of PRP development, measures are primarily directed at (1) upgrading of urban wastewater systems in Ireland through actions including infrastructural works, if required, to ensure discharges meet the relevant water quality and shellfish standards required, and (2) investigation and assessment of the extent of other pressures to determine risk. These investigations, together with ongoing assessment and monitoring of the designated shellfish waters will be used to confirm the effectiveness of these programmes and to refine the programmes where necessary, including to address sources of pollution on the Northern Ireland side of Carlingford Lough, if necessary. As the monitoring database grows, results of further investigations become available and programmes are implemented, incremental changes will be made to ensure compliance with the standards and objectives established. As such the PRPs will be dynamic programmes reflecting up to date legislation, current monitoring and the outputs from further investigations.

It should be noted that transboundary consultation was carried out on both the scope of the SEA/HDA reports as well as on the content of the draft PRPs in the Louth and Fingal region, including the PRP for the Carlingford Lough designated shellfish water.

Recommendation: *It is recommended that transboundary communication links already in place through the North South Share project, which is part of the implementation of the Water Framework Directive, be used to foster communication on the content of the Pollution Reduction Programme for Carlingford Lough during in future reviews.*

The competent authority for the PRPs, the Department of the Environment, Heritage and Local Government, will ensure transboundary communication continues throughout the implementation of the Carlingford Lough PRP.

4.2 DESIGNATION OF ADDITIONAL WATERS

Queries were received as to when Lough Foyle would be designated as a shellfish water under the EU Shellfish Directive.

Although it is a shellfish growing area, Lough Foyle, which is located in the Sligo and Donegal region, is not designated for the purposes of the EU Shellfish Directive (and its associated Regulations). Only those sites designated under the EU Shellfish Directive are the subject of this consultation process. This comment has been forwarded to the Department of Environment, Heritage and Local Government for consideration should additional designations be considered in future.

Recommendation: *It is recommended that transboundary communication links already in place through the North South Share project, which is part of the implementation of the Water Framework Directive, be used to foster communication on future designations.*

The competent authority for the PRPs, the Department of the Environment, Heritage and Local Government, will ensure transboundary communication continues should future designations be proposed.

4.3 ADDITIONAL SOURCES OF PRESSURE ON WATER QUALITY

Submissions received highlighted potential additional sources of pressures on water quality in certain designated shellfish areas. For example, the location of the proposed Bremore Port (which has not yet been submitted for planning) near the Fingal/Meath border is identified as a potential pressure on the Balbriggan/Skerries designated shellfish area.

Potential pressure from existing ports is considered in the Characterisation Report for the Balbriggan/Skerries designated shellfish water. Monitoring indicates faecal contamination in this

shellfish area, with harbour activities in the vicinity considered to be a possible source. As such these were carried forward as a pressure into the PRP.

With regards to the proposed Bremore Port, the Characterisation Report considered committed development only with regards to the potential pressures on the designated area. However, should a planning application be submitted for the proposed Bremore Port, decision-makers would be required to consider and address the water quality requirements of the EU Shellfish Waters Directive (and its associated regulations). In addition, the PRP contains a measure aimed at addressing future development within the vicinity of the designated shellfish area. This measure states that:-

> *Under Article 4 of the European Communities (Quality of Shellfish Waters) Regulations 2006 (S.I. No. 286 of 2006) (as amended), every public authority that has functions the performance of which may affect shellfish waters shall perform those functions, in a manner that will promote compliance with the objectives of this pollution reduction programme and with the objectives of the Shellfish Waters Directive.*

The functions of particular importance, in light of the objectives of Directive 2006/113/EC and of this PRP, include granting of licences for the disposal of ship generated waste as well as planning and development, among others. As such, public authorities are required to promote compliance with the objectives of regulations as they apply to the Balbriggan/Skerries Shellfish Area, which includes ensuring that activities at the proposed Bremore Port (if approved) do not result in breaches of the water quality requirements of the EU Shellfish Waters Directive. It should be noted that continued monitoring will be carried out during the lifetime of the PRP. Should this monitoring identify additional pressures that are impacting on shellfish water quality in the designated area, the PRP will be appropriately amended.

It should be noted that the Balbriggan/Skerries shellfish water was designated under the European Communities (Quality of Shellfish Waters) (Amendment) Regulations 2009, S.I. 55 of 2009. The designation was made following a period of public consultation during Sep/Oct 2008 and having taken into account all the submissions received on the designation. The boundaries of the designated shellfish waters are not the subject of this public consultation. As such, no changes to the boundaries of the designated shellfish waters can be effected by the PRPs or the associated SEA and HDA at this time. This comment has been forwarded to the Department of Environment, Heritage and Local Government for consideration should amendments to existing designations be considered in future.

4.4 NEED FOR FUTHER ASSESSMENT

One submission observed that specific plans that fall under the auspices of the PRP may result in localised negative impacts and that assessment under the EIA Regulations and/or Habitats Regulations may be required. It also noted that SEA should be reviewed to ascertain the potential for impacts to wild birds designated SPAs, aquatic flora and fauna and to terrestrial ecology. The submission also stated that plans or project arising from the PRPs, and which are located in or adjacent to SACs or SPAs, will require an Article 6(3) assessment under the Habitats Directive. In particular project level assessments should consider the potential interaction with Annex IV species (e.g. cetaceans) and that if a risk is identified then appropriate mitigation to reduce the risk to those species must be proposed.

The Habitats Directive Assessment carried out on the PRPs identified a number of measures included in the National Toolkit as requiring further project level assessment to determine if they would result in negative impacts to the conservation objectives of Natura 2000 sites, i.e. SACs and SPAs, including the impacts on Annex II and IV species. Where this need for additional project level assessment was identified mitigation was included in the Habitats Directive Assessment to address these impacts. This mitigation was subsequently brought forward into the Environmental Report.

The assessment included in the Environmental Report identified impacts with regards to the following issue areas: biodiversity, flora and fauna; population; human health; water, climatic factors; cultural heritage; landscape; material assets; and soils and geology. In some cases it was concluded that project level assessment is required to address impacts in some issue areas, e.g. landscape, cultural heritage and biodiversity, flora and fauna, once further detail as to the siting, scale and scope of the projects arising out of implementation of specific measures is known. Mitigation was included in the Environmental Report to address these impacts and this has been carried forward into the PRPs, where relevant.

4.5 ADDITIONAL INFORMATION REQUESTED

Requests for additional baseline information were received, including a request for baseline information focussed at the geographical area that is the subject of the SEA. Additional sources of baseline information were also recommended.

The baseline information presented in the Environmental Report (Chapter 4) is primarily based on the information in the Characterisation Reports for each individual designated shellfish water area. As such the baseline data provided in the Environmental Report is at the individual catchment level. With regards to the identified existing environmental pressures/problems, as far as possible, and following meetings with each of the relevant local authorities, these existing environmental pressures/problems

have been tailored to the region being considered in the Environmental Report, and where possible to the individual shellfish areas. However, it is noted that existing environmental pressures/problems for the shellfish designated areas are the result of existing environmental pressures/problems at the regional and national level.

In the initial phase of PRP development measures are mainly directed at (1) upgrading of urban wastewater systems through actions including infrastructural works, if required to ensure discharges meet the relevant water quality and shellfish standards required and (2) investigation and assessment of the extent of pressures to determine risk. These investigations, together with ongoing assessment and monitoring of the designated shellfish waters will be used to confirm the effectiveness of these programmes and to refine the programmes where necessary. As the monitoring database grows, results of further investigations become available and programmes are implemented, incremental changes will be made to the PRPs to ensure compliance with the standards and objectives established. As such, the PRPs and their accompanying Characterisation Reports will be dynamic documents reflecting up-to-date legislation, current monitoring and the outputs from further investigations. It is anticipated at this time that further sources of baseline information will be consulted and incorporated, where relevant.

Recommendation: *It is recommended that at such time as the PRPs and Characterisation Reports are updated that recent sources of baseline be consulted, e.g. the EPA EPER PRTR database and associated reporting.*

The competent authority for the PRPs, the Department of the Environment, Heritage and Local Government, has committed to reviewing baseline data sources at such time as the PRPs and Characterisation Reports are reviewed. Text has been added to the PRPs to ensure that this review is carried out.

A number of requests for clarification and/or amendments to the information contained in the Environmental Report were also received. These have been reviewed and, where relevant, clarifications or provision of additional information are included in **Appendix B** of this document.

4.6 INTEGRATION OF THE PRPS, HDA AND SEA

Requests were received for greater integration between the PRPs, HDA and SEA reports, including inclusion of mitigation measures in the PRPs and clarification on who will be responsible for carrying out the Environmental Monitoring Programme.

The SEA and HDA were ongoing throughout the development of the draft PRPs, with the SEA, HDA and PRP 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:

- Early identification of environmental sensitivities in the Louth and Fingal region in order to amend the draft PRPs and to avoid impacts on the environment;
- Recommendation of mitigation measures to address the potential impacts arising from the alternatives considered in the draft PRPs;
- Development of a monitoring plan to track the environmental performance of the final PRPs once implemented; and
- Review of submissions.

As part of the Environmental Report, an extensive list of mitigation measures was proposed for incorporation in the National Toolkit of Measures and the individual PRPs. These mitigation measures were based on the findings from both the SEA and the HDA. The PRP team considered these mitigation measures during the consultation period. The relevant mitigation pertaining to the specific measures included in each of the individual PRPs has been carried forward into Annex 2 of each PRP. The entire suite of mitigation measures from the HDA and SEA is included in Table 4 of the National Toolkit of Measures, and has been categorised according to broad types, i.e. education and awareness, Habitats Directive, infrastructure requirements, etc. This will ensure that these mitigation measures are clearly linked to the measures toolkit, as it is important that they be transposed into future PRPs should additional measures be added following continued monitoring and completion of planned further investigations.

The SEA Environmental Report and HDA Report were available for consultation alongside the draft PRPs for the Louth and Fingal region. A review of the submissions on all three documents has been carried out. The comments made in the submissions received on the three documents were used to refine/amend the contents of the final PRPs for the Louth and Fingal region along with their accompanying Characterisation Reports.

4.7 AMENDMENTS TO STRATEGIC ENVIRONMENTAL OBJECTIVES

Several comments were received regarding the scope and content of the Strategic Environmental Objectives used during the assessment of the PRPs. These are valuable comments and should be considered when the PRPs are being reviewed in future as part of their incorporation into the RBMPs; particularly as many of the recommended changes are already in place as part of the SEA of the first cycle River Basin Management Plans.

Recommendation: *When the PRPs are reviewed prior to their incorporation in the second cycle RBMPS, it is recommended that review of the Strategic Environmental Objective for Water be carried out, including consideration of broadening the Objective to assess the extent to which the PRPs will support meeting relevant the wider objectives of the WFD, e.g. support achievement of Good Chemical Status.*

The competent authority for the PRPs, the Department of the Environment, Heritage and Local Government, has committed to reviewing the Strategic Environmental Objectives at such time as the PRPs and Characterisation Reports are reviewed. Text has been added to the PRPs to ensure that this review is carried out.

4.8 RELATIONSHIP OF PRPS TO RIVER BASIN MANAGEMENT PLANS

Requests were received for clarification of how the EU Shellfish Directive and its associated PRPs relates to the EU Water Framework Directive.

The EU Water Framework Directive (2000/60/EC) provides a framework for the protection and restoration of the aquatic environment and terrestrial ecosystems and wetlands directly dependent on the aquatic environment. In accordance with the requirements of the Directive, River Basin Management Plans (RBMPs) were published in draft form in December 2008 with the final RBMPs to be published in December 2009. These will be the primary plans in place in relation to the entire water environment in Ireland for the foreseeable future. As part of the implementation of the WFD a Register of Protected Areas was compiled on which the waters designated under the EU Shellfish Directive are included.

The PRPs and the RBMPs, although complementary in terms of their aims of improving water quality, each have a slightly different focus. The PRPs aim to ensure that the parameters specified in the EU Shellfish Waters Directive (and its associated regulations) are met in each designated shellfish area, with a heavy focus on reducing bacterial pollution loading. The RBMPs aim to address water quality and water quantity issues in all waters (i.e. rivers, lakes, transitional, coastal and groundwaters) and are concerned with the ecological status of these water bodies. The WFD also does not require microbiological monitoring (other than indirectly for those areas listed on the Register of Protected Areas such as bathing waters).

The WFD strengthens and consolidates a number of existing environmental directives while repealing others on a phased basis. The EU Shellfish Waters Directive is due to be repealed by the WFD in 2013, while the PRPs will be incorporated into the relevant second cycle RBMPs when they are updated prior to the start of the second cycle of river basin planning in 2016. When this occurs, the WFD must provide at least the same level of protection to shellfish waters as the EU Shellfish Waters

Directive. However, it should be noted that where the WFD requires a higher level of protection for a water body, which is also a shellfish designated area, then the higher standard will apply.

As the PRPs will be incorporated into the second-cycle RBMPs, it is desirable that where possible these two documents be closely aligned. In order to ensure that these two documents are compatible, the measures included in the PRPs are drawn from a National Toolkit of Measures derived from a series of earlier technical studies carried out in the early stages of implementation of the Water Framework Directive (POM Studies). The National Toolkit of Measures used in the PRPs also follow the same approach of basic and supplementary measures as that used in the RBMPs.

4.9 RELATIONSHIP OF PRPS TO OTHER PROTECTED AREAS

Queries were received as to how potential differences in water quality objectives or conservation objectives within overlapping types of designations would be dealt with in the PRPs.

In cases where other protected areas overlap designated shellfish areas, such as Special Areas of Conservation (SACs) or Special Protection Areas (SPAs), the most stringent set of objectives for the area would continue to apply and legally would be required to be met. For example in the case of SACs and SPAs, the conservation objectives for these are in some cases supported by Conservation Management Plans (45 have been completed to date), which would need to be considered along with the PRPs when determining what actions are required in an area with overlapping designations. No Conservation Management Plans are currently in place for SACs or SPAs which overlap designated shellfish areas in the Louth and Fingal region.

It should be noted that the improvement in water quality expected to occur as a result of the PRPs would aid in achieving the objectives of other plans, policies or programmes with more stringent water quality or conservation objectives. Relationships, including potential conflicts, between the objectives of other plans, policies and programmes have been considered in Chapter 5 and Appendix D of the Environmental Report. For example, the objectives of the EU Habitats Directive are identified as the prevention and elimination of the causes of habitat loss and maintenance and enhancement of current levels of biodiversity. The potential conflicts between these objectives and the PRPs were identified as likely to occur at the project level from implementation of specific measures. It was then recommended that management measures and infrastructure that carry a lower risk of damage to designated habitats and species be favoured in the PRP to reduce potential conflicts. This was also evident in the HDA, which determined that implementation of certain measures at the project level, i.e. new infrastructures in/near SACs and SPAs, was likely to result in impacts on SACs or SPAs. In these cases the HDA required that further assessment at the project level be carried out once the details of the required infrastructure is known (e.g. location, size and scale).

4.10 LEVEL/SCALE OF ASSESSMENT

A submission requested that a more detailed analysis should be included of the likely impacts of specific measures proposed in each PRP, in the context of the characteristics of the catchment. This should include a catchment by catchment and an overall Louth and Fingal region analysis of the full range of environmental impacts resulting from implementation of the PRPs.

As outlined in Section 2 (Methodology) of the Environmental Report, an assessment of the national toolkit of measures was under-taken in the first instance to inform the more specific assessment arising out of the selection of applicable measures for each designated shellfish area. Section 8.2 goes on to provide a specific assessment for each area based on the measures brought forward into the relevant PRP. The PRP specific assessment was focussed on those measures which are likely to be applied in this first round based on the key and secondary pressures identified in the individual Characterisation Reports to date, which in most cases are improvements to Urban Wastewater Systems and further investigations into issues related to unsewered properties and agriculture. In all cases, where relevant, catchment specific mitigation has been identified. Where there is likely to be further investigation and thus potential for application of additional measures in future, the need for additional assessment has been highlighted. All mitigation measures associated with measures under each of the key and secondary pressures at this time are included in Annex 2 of the individual PRPs.

5 HOW ENVIRONMENTAL CONSIDERATIONS AND CONSULTATIONS HAVE BEEN TAKEN INTO ACCOUNT IN THE ADOPTED PRPS

5.1 ENVIRONMENTAL CONSIDERATIONS

The SEA process took place in conjunction with the preparation of the PRPs 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 meetings and discussions between the teams preparing the SEA, HDA and PRPs as well as with statutory consultees. This iterative process ensured that the SEA/HDA and the preparation of the PRPs were well integrated in order to meet the strategic environmental objectives and the objectives of the PRPs (**Figure 6.1**).

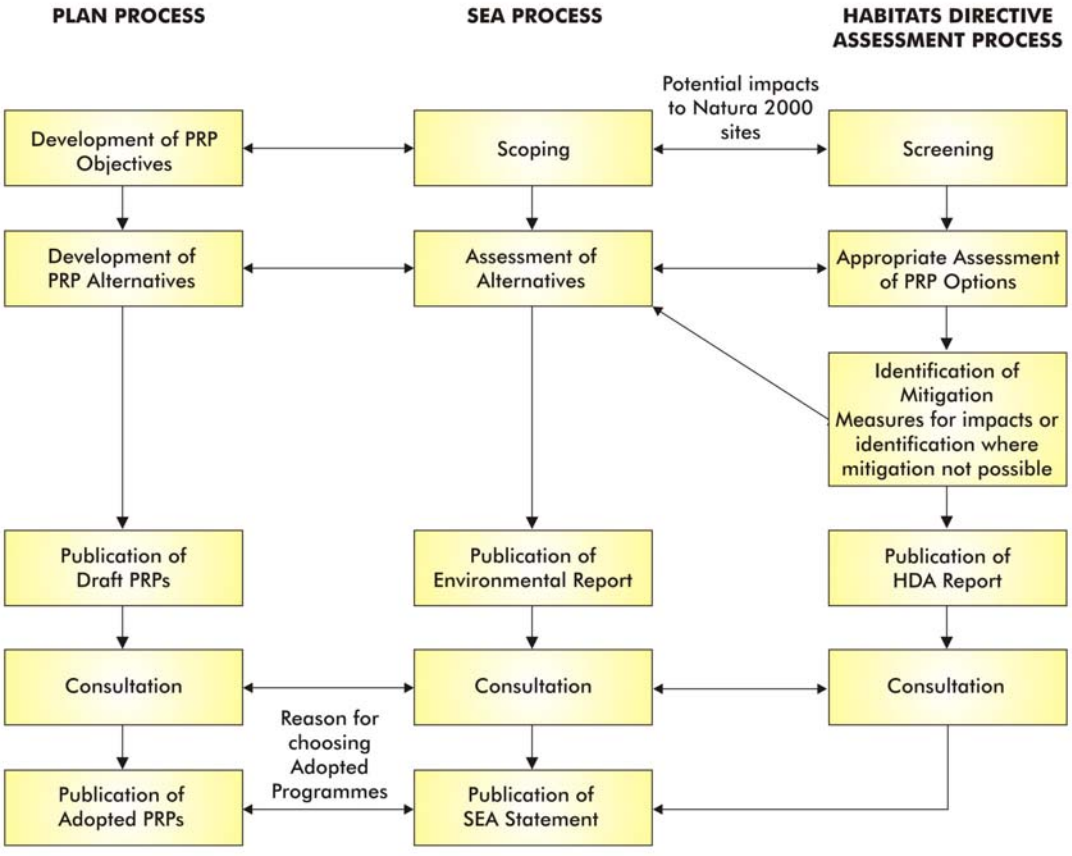

Figure 6.1. Integration of the SEA/HDA and preparation of the PRPs

5.2 SUMMARY OF THE SEA ASSESSMENT

5.2.1 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 PRP 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 in the contributing catchments.
Objective 3	**HH**	Protect and reduce risks to human health related to consumption of shellfish.
Objective 4	**S**	Avoid damage to the function and quality of the soil resource in the contributing catchments.
Objective 5	**W**	Achieve or maintain the water quality parameters as listed in Annex I of the EU Shellfish Directive in all designated shellfish waters.
Objective 6	**C**	Minimise contribution to climate change by emission of greenhouse gasses associated with PRP implementation.
Objective 7	**MA1**	Maintain level of protection provided by existing morphological infrastructure, e.g. flood defences, coastal barriers, groynes, etc. in the contributing catchments.
Objective 8	**MA2**	Sustainably provide new and upgrade existing water management infrastructure in the contributing catchments to achieve the water quality parameters of the EU Shellfish Directive and protect human health.
Objective 9	**MA3**	Protect water as an economic resource in the contributing catchments.
Objective 10	**CH**	Avoid damage to cultural heritage resources in the contributing catchments.
Objective 11	**L**	Avoid damage to designated landscapes in the in the contributing catchments.

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

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

- Business as Usual, i.e. implementation of the 11 Existing Directives listed in Article 10 and part A of Annex VI of the WFD and implementation of other stipulated measures required by the Water Framework Directive, termed Basic Measures and Other Basic Measures, respectively. Domestic legislation has been or will be made in Ireland to address these stipulated measures.
- Individual Supplementary Measures, i.e. measures to be implemented only where the Basic and Other Basic Measures are not adequate to address identified pressures in

particular waters. Supplementary Measures are pressure specific and were identified by a series of technical studies in Ireland carried out in the early stages of implementation of the Water Framework Directive (POM Studies); and

a) Combination of Supplementary Measures selected for each PRP, i.e. specific measures selected to address the key and secondary pressures identified in the individual Characterisation Reports for each of the designated shellfish areas.

Prior to carrying out the assessment, the Basic Measures were sieved to focus on elements that could be reasonably assessed. The Other Basic Measures were all assessed; however, this was confined to qualitative assessment due to lack of specific detail, which would allow quantification. The Supplementary 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 7.2 and 7.3 and Appendix F of the Environmental Report.

5.2.2 Difficulties and Data Gaps Encountered

The following difficulties and data gaps were encountered:

- Lack of monitoring data to identify pressures in the designated shellfish waters;

There is currently incomplete monitoring data available for many of the newly designated shellfish growing areas. As a result, expert judgement has been used to supplement identification of the main pressures and selection of appropriate measures for this first phase of PRPs. Further investigations, required by the PRPs, will improve the available information going forward. It is also intended that the PRPs will come under the umbrella of the WFD for the second cycle of the River Basin Management Plans and at that time an improved body of monitoring information and data will be available.

- Requirement for further investigation to identify pressures and as such allow selection of measures to address these; therefore, detailed assessment of some measures included in the PRPs is not possible at this time;

These have been addressed by highlighting where additional assessment may be required in future once additional measures are selected to address pressures identified by future monitoring.

5.2.3 Overall Summary of Assessment

The measures assessed from the PRPs are primarily directed at (1) upgrading of urban wastewater systems through actions, such as infrastructural works where required, to ensure discharges meet the relevant water quality standards and (2) investigation and assessment of the extent of pressures to

determine risk. These measures will be used to confirm the effectiveness of these programmes and to refine the PRPs where necessary. As such the PRPs will be dynamic programmes, which will reflect up-to-date legislation, current monitoring and the outputs from further investigations.

It is anticipated that the implementation of the PRPs will give rise to improvements in water quality leading to positive impacts to aquatic biodiversity, flora and fauna as well as human health. The requirement for new and upgraded wastewater treatment systems will result in overall positive impacts for water quality; however, negative impacts are possible for biodiversity, flora and fauna and cultural heritage if siting and construction of these individual projects does not consider the environment. Mitigation measures have been proposed to minimise these impacts (see Section 5.2.5 below for further detail).

For convenience, a summary of the assessment contained within the Environmental Report is presented in **Appendix A**. The full assessment can be found in Section 8 of the Environmental Report.

5.2.4 Summary of Cumulative and Synergistic Impacts

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 the designated shellfish areas in the Louth and Fingal region as well as across the coastal areas of the country as a whole due to the implementation of PRPs for all designated shellfish areas. Also, a cumulative positive impact to human health would result from implementation of the PRPs due to an improvement in water quality in the designated shellfish areas.

A number of alternatives call for the construction of new or upgraded infrastructure. These would contribute to sustainable development in the region, though 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 renewable energy to fuel new infrastructure projects. Conversely, removal and disposal of sludge from on-site sewage treatment systems may result in a reduction of CO_2 (equivalent) emissions as opposed to leaving it in place.

In addition, new or upgraded infrastructure could result in potentially cumulative negative impacts to biodiversity, landscape and cultural heritage if these are unsuitable/sensitive locations. 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 including the commercial aquaculture industry.

5.2.5 Mitigation Required

As part of the Environmental Report, an extensive list of mitigation measures was proposed for incorporation in the National Toolkit of Measures and the individual PRPs. These mitigation measures were based on the findings from both the SEA and the HDA. The PRP team considered these mitigation measures during the consultation period. The relevant mitigation which pertain to the specific measures included in each of the individual PRPs has been carried out forward into Annex 2 of each PRP. The entire suite of mitigation measures from the HDA and SEA is included in Table 4 of the National Toolkit of Measures. This is to ensure that these mitigation measures will be clearly linked to the measures toolkit, as it is important that they be transposed into future PRPs should additional measures be added following continued monitoring and completion of planned further investigations.

5.3 INFLUENCE OF THE SEA PROCESS DURING PRP PREPARATION

The SEA and HDA were ongoing throughout the development of the draft PRPs, with the teams compiling the SEA, HDA and PRPs working together closely to identify potential environmental issues/constraints at the earliest possible stage in the Programme-making process. The SEA and HDA Teams were involved in the:

- Early identification of environmental sensitivities in the Louth and Fingal region in order to amend the draft PRPs and to avoid impacts on the environment;
- Recommendation of mitigation measures to address the potential impacts arising from the alternatives considered in the draft PRPs; and
- Development of a monitoring plan to track the environmental performance of the final PRPs once implemented.

The SEA process has ensured that potential environmental impacts (both positive and negative) associated with the implementation of the PRPs for the designated shellfish waters of the Louth and Fingal region have been given due consideration in the preparation of the PRPs. **Table 5.1** shows

how environmental considerations and the input of the SEA and HDA have been taken into account in the final PRPs.

Table 5.1 How Environmental Considerations Have Been Taken into Account in the PRPs

Environmental Consideration	How has this been accounted for in the PRPs?
Identification of environmental constraints in the Louth and Fingal region	Through refinement of measures at an early stage.
Recommendation of Mitigation Measures to address impacts on the wider environment	This is included in Annex 2 of in each of the individual PRPs and is tailored to address the specific measures selected from the National Toolkit for implementation in each catchment. The entire suite of mitigation measures identified by the SEA and HDA has been included in Table 4 of the National Toolkit of Measures and shall be considered for inclusion in the individual PRPs at the time they are under review.
Required Environmental Monitoring Programme	This is included in Table 5 of the National Toolkit of Measures which is a background document to the individual PRPs. The Department of the Environment, Heritage and Local Government is responsible for compiling the data required under the Environmental Monitoring Programme at such time as the PRPs are reviewed, which will be at no more than three year intervals.

6 PREFERRED SCENARIO AND REASONS FOR CHOOSING THE ADOPTED PRPS

In addition to the Basic Measures and Other Basic Measures, all of which are currently or will be made law in Ireland, a range of pressure specific Supplementary Measures has also been identified by a series of technical studies in Ireland carried out in the early stages of implementation of the Water Framework Directive (POM Studies). The purpose of the Supplementary Measures is to address pressures in particular waters, where implementation of the Basic and Other Basic Measures are not sufficient to meet the required water quality objectives. From this 'tool kit' of Basic, Other Basic and Supplementary Measures several were selected and brought forward into each PRP to address the existing key and secondary pressures on water quality in each designated shellfish water as identified in the Characterisation Report. This specific combination of measures in each PRP is the preferred scenario. This approach/scenario has been selected for the final PRPs as it reflects the requirement of the EU Shellfish Waters Directive to provide specific pollution reduction programmes for each designated shellfish water, which address the specific pressures acting on water quality in each area.

The primary effect of the individual PRPs will be to improve water quality and ensure the protection or improvement of designated shellfish waters in order to support shellfish (bivalve and gasteropod molluscs) life and growth and thus to contribute to the high quality of shellfish products directly edible by man. Where potential negative impacts have been identified, mitigation measures were proposed in the Environmental Report and Habitats Directive Assessment the entire suite of which have been carried forward into the National Toolkit of Measures, with specific mitigation measures also included in the individual PRPs, where relevant. The PRPs have been prepared and presented at the strategic level. It is therefore noted that individual projects may be subject to funding and planning approval. In addition, such projects may also be subject to environmental impact assessment as well as assessment under the Habitats Directive, thus ensuring that due consideration is given to their potential environmental impacts.

The individual PRPs have three components:

- The Characterisation Report – These have been complied for each individual designated shellfish areas and highlight the key and secondary pressures on water quality in the designated shellfish area, within the marine waters in the vicinity of the shellfish area or within the contributing catchment;
- The National Toolkit of Measures - The supporting toolkit of measures which outlines all of the measures available for controlling pressures which impact on shellfish water quality parameters, from which specific measures can be selected to address the pressures on water quality identified in each of the individual Characterisation Reports.

- The Pollution Reduction Programme – These have been compiled for each individual designated shellfish area and detail the specific measures selected from the National Toolkit to address identified key and secondary pressures on water quality.

7 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE IMPLEMENTATION OF THE ADOPTED PRPS

7.1 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 PRPs (refer to Table 6.3 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 that the monitoring programme, which will be carried out under the Shellfish Waters Directive, will form a substantial element of the monitoring programme required under the SEA. It should be noted that the success of the PRPs in achieving the Annex I water quality parameters will be related to the speed at which the measures proposed are implemented.

7.2 RESPONSIBILITY AND SOURCES OF INFORMATION FOR MONITORING

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the PRPs. 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 PRPs. **Table 7.1** 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 Table 5 of the National Toolkit of Measures.

As shown in **Table 7.1**, the majority of information required is already being actively collected (under the EU Shellfish Directive, 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 PRPs.

The Department of the Environment, Heritage and Local Government is the authority responsible for collecting and collating data under the Environmental Monitoring Programme. The data will be collected during review of the PRPs, which is to be at an interval of not more than three years.

Table 7.1 Required Environmental Monitoring Programme for the PRPs

SEA Topic	SEA Target	SEA Indicators	Data Availability, Source and Frequency
Biodiversity, Flora & Fauna (BFF)	Halt deterioration of habitats or their associated species due to water quality issues in the contributing catchments by 2015. * (* 2015 is six years from most recent round of shellfish waters designation and is the year that Shellfish Waters Directive will be subsumed into the WFD)	The status of EU protected habitats and species in Ireland (report due every 6 years, first report in 2007). Condition of Selection Features in sites designated for nature conservation (SACs, SPAs, Ramsar and NHAs) in the contributing catchments.	The Status of EU Protected Habitats and Species in Ireland report. Published every 6 years. Not currently compiled.
Population (P)	Provide adequate wastewater treatment infrastructure capacity to all urban and suburban areas (cities, towns and villages) within the contributing catchments by 2015.* (*2015 is six years from most recent round of shellfish waters designation and is the year that Shellfish Waters Directive will be subsumed into the WFD) Strictly control rural development with the provision of individual wastewater treatment units in accordance with the EPA Guidelines Manual in relation to the provisions of wastewater treatment to single houses.	Number of Section 140 motions under the Planning and Development Act 2001 tabled and passed for development in urban and suburban areas where adequate wastewater treatment infrastructure capacity is not in place. 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 of wastewater treatment to single houses.	Summary of Annual Planning Statistics. An Bord Pleanála. Published annually. Summary of Annual Planning Statistics. An Bord Pleanála. Published annually.
Human Health (HH)	Interim Target: No designated shellfish waters classified as Classes B or C under the Shellfish Hygiene Regulations. Long Term Target: All designated shellfish waters to achieve the water quality parameters identified in the Shellfish Water Directive by 2015.* (*2015 is six years from most recent round of shellfish waters designation and is the year that Shellfish Waters Directive will be subsumed into the WFD)	Interim Indicator: Number of designated shellfish waters classified as Class B or C under the Shellfish Hygiene Regulations. Long Term Indicator: Water quality in designated shellfish waters in 2015.	The Live Bivalve Molluscs (Production Areas) Designation report. DCENR. Issued twice yearly. Water Quality in Ireland report. EPA. Published every 1 to 2 years.

SEA Topic	SEA Target	SEA Indicators	Data Availability, Source and Frequency
Soil (S)	Interim Target: Achieve soil phosphorus levels in line with Teagasc targets for agricultural land. Long Term Target: Achieve risk reduction targets as detailed in the Soil Directive for areas identified as at risk (not yet established).	Interim Indicator: Soil phosphorus levels. Long Term Indicator: Monitoring programme as established under the requirements for the Soil Directive (once established).	National Soils Database. Teagasc and EPA. Updated as data becomes available. Not yet established
Water (W)	All designated shellfish waters to achieve the water quality parameters identified in the Shellfish Waters Directive by 2015. * (*2015 is six years from most recent round of shellfish waters designation and is the year that Shellfish Waters Directive will be subsumed into the WFD)	Interim Indicator: Quarterly water quality monitoring results carried out as required under the Directive. Long Term Indicator: Water quality in designated shellfish waters in 2015.	Marine Institute Water Quality in Ireland report. EPA. Published every 1 to 2 years.
Climatic Factors (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. Use BAT, including renewable energy, to minimise GHG from changes in industrial practices due to PRP implementation in line with Ireland's commitments to reduce GHG emissions under the Kyoto Protocol. No net loss of CO_2 sequestering vegetation due to changes in forestry practices as a result of PRP implementation.	Calculated CO_2 equivalent in tonnes from new or upgraded wastewater infrastructure, e.g. WWTP, including emissions associated with the digestion and / or incineration of sludge. Calculated CO_2 equivalent in tonnes due to changes in industrial practices. Calculated CO_2 sequestering potential of forest vegetation based on forest cover.	To be calculated based on changes in wastewater infrastructure. This could be incorporated as a requirement in the licence application process. To be calculated based on changes in industrial practices, records of which are held as part of the IPPC licence process by the EPA. National Council for Forest Research for sequestration potential. Corine Land Cover database for forest cover figures.
Material Assets (MA1)	No increase in the amount of infrastructure at risk from flooding as a result of PRP 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 in contributing catchments.	Information on number of Flood Risk Management Plans prepared to be sourced from the OPW. Information on flood risk to be sourced from the OPW.

SEA Topic	SEA Target	SEA Indicators	Data Availability, Source and Frequency
Material Assets (MA2)	Interim Target: Increase investment in water management infrastructure. Long Term Target: Full compliance with the requirements of the Urban Wastewater Treatment Directive and its associated regulations.	Interim Indicator: Water service investment per annum in contributing catchments. Long Term Indicator: Number of exceedances of the standards contained in the Urban Wastewater Treatment Directive and its associated regulations in contributing catchments.	To be sourced from Finance Department annual expenditure figures. Urban Waste Water Discharge in Ireland reports. EPA. Published every two years.
Material Assets (MA3)	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, prepared in 2004 as part of the implementation of the Water Framework Directive in Ireland.	Economic studies carried out as part of the planning process during the second cycle of river basin management planning under the Water Framework Directive.
Cultural Heritage (CH)	No physical damage or alteration of the context of cultural heritage features due to PRP implementation.	Changes in the condition of monuments on the RMP due to PRP implementation. Number of listed structures at risk due to PRP implementation.	The Archaeological Survey monitoring programme, Ireland. DoEHLG. Updated on an ongoing basis. Buildings at Risk Register. Heritage Council Ireland. Updated on an ongoing basis.
Landscape (L)	No damage to designated landscapes as a result of PRP implementation.	Number of wastewater treatment plants sited in landscapes with a high sensitivity to change. Percent change in land cover types in areas with a high sensitivity to change due to PRP implementation.	Data on number of wastewater treatment plants to be sourced from Local Authorities (not currently compiled centrally). Land cover information to be sourced from the Corine Land Cover 2000 (CLC2000) project.

8 CONCLUSION AND NEXT STEPS

The SEA and HDA processes carried out during the preparation of the PRPs for designated shellfish waters in the Louth and Fingal region have ensured that the potential significant environmental impacts associated with implementation of the PRPs have been identified and that they have been given appropriate consideration. Consultation on the draft PRPs, Environmental Report and HDA Report has further contributed to the development and finalisation of the adopted PRPs for designated shellfish waters in the Louth and Fingal region.

It is envisaged that monitoring and reporting of environmental impacts, both positive and negative, resulting from implementation of the PRPs will continue over their lifetime. The data collected can then be used, when the PRPs are incorporated into the second-cycle RBMPs, to facilitate a review of progress on implementation and effectiveness of the PRPs and to feed into the SEA for the second cycle of the RBMP process.

APPENDIX A

Summary of Environmental Assessment of the National Toolkit of Measures

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 Tables 7.1 and 7.2 and Appendix E of the Environmental Report for further detail on what is included in DIR4 to 6 and WFD1 to 9

Table 3 Summary of Assessment: Supplementary Measures included in the National Toolkit of Measures

Measure	BFF	P	HH	S	W	CC	MA1	MA2	MA3	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	+/-	+	+	+/-	+/-	+/-	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
WW6: Where necessary to achieve water quality objectives install secondary treatment at smaller plants where this level of treatment would not otherwise be required under the urban wastewater treatment regulations	+/-	+	+	+/-	+	-	0	+	+	0/-	0
WW7: Apply a higher standard of treatment (stricter emission controls) where necessary	+/-	+	+	+/-	+	-	0	+	+	0/-	0
WW8: Upgrade the plant to remove specific substances known to impact on water quality status	+/-	+	+	+/-	+	-	0	+	+	0/-	0
WW9: Install ultra-violet or similar type treatment	+/-	+	+	+/-	+	-	0	+	+	0/-	0
WW10: Relocate the point of discharge	+/-	+	+	+	+	0	0	+	+	0/-	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

Measure	BFF	P	HH	S	W	CC	MA1	MA2	MA3	CH	L
UP3: For new developments: - At planning assessment stage, apply the GIS risk mapping / decision support system and codes of practice. - Notice to planning authority required immediately prior to the installation of on-site effluent treatment systems including percolation areas and polishing filters.	+	+	+	+	+	0	0	+	+	0 / -	0
UP5: Enforce requirements for percolation	+ / -	+ / -	+ / -	+	+	-	0	+	+	0 / -	0 / -
UP6: Enforce requirements for de-sludging											
UP7: Consider connection to municipal systems	+ / -	+ / -	+ / -	+	+	-	0	+	+	0 / -	0 / -
Forestry											
F2: Acidification – Avoid afforestation on 1st and 2nd order stream catchments in acid sensitive catchments. Where such afforestation is proposed testing in accordance with the Acidification Protocol must be carried out to demonstrate that an adverse acid impact will not occur. This recognises the fact that small deposits of base geology can impart sufficient buffering capacity to prevent acid impact.	+	+	+	+	+	-	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
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
F5: Eutrophication and Sedimentation - Avoid or limit forest cover on unenclosed peat land sites (Blanket Bog, Raised Bog, Fen Peat and heath land) and limit forest cover on less sensitive peat land sites such as cutaway, enclosed and improved peats. The latter should be based on a site by site assessment.	+	+	+	+	+	-	0	0	+	0	0
F6: Acidification – Restructuring of existing forests located on identified high risk acid areas. Forest management plans to include acid impact potential risk maps based on soil type, underlying geology and known water chemistry to avoid future acid impact potential.	+	+	+	+	+	-	0	0	+	0	0

Measure	BFF	P	HH	S	W	CC	MA1	MA2	MA3	CH	L
F7: Eutrophication and Sedimentation - Limiting felling coup size where this is technically feasible and where a risk assessment indicates that wind throw is not likely to occur. The measure is also site specific and the coup size should be linked to a multi-year felling plan for a given water body which would indicate the percentage of forest area to be felled and the expected nutrient and sediment release.	+	+	+	+	+	-	0	0	+	0	0
F8: Establish new forest structures on older plantation sites (including riparian zones, drainage layouts, species mix, open areas) based on a site by site assessment. The assessment would take account of the impact of the restructuring on the overall forest stand stability to ensure no additional adverse effect on water status. However, a priority is to establish buffer zone management prior to felling.	+	+	+	+	+	-	0	0	+	0	0
F10: Pesticide Use - Reduce and monitor pesticide usage by delaying any restocking by 3-5 years, using pre-dipped plants from nurseries and developing alternate biological control methods. Where feasible a register of pesticide use should be maintained.	+ / -	+	+	+	+	0	0	0	+	0	0
F11: Acidification - Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming) where such mitigation is demonstrated to be technically feasible and where the application of such materials will not give rise to adverse water status impacts.	+	+	+	+	+	0	0	0	+	0	0
F12: Eutrophication and Sedimentation / Acidification - Manage catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas where this has been demonstrated to be technically feasible and where it will not give rise to adverse impacts on water quality status.	+	+	+	+	+	0	0	0	+	0	0
F13: Acidification - Implement measures to increase stream production where technically feasible – for example with native woodland in riparian zones.	+	+	+	+	+	0	0	0	+	0	0
F14: Eutrophication and Sedimentation - Establish riparian zone management prior to clearfelling where technically feasible and following specific site by site assessment to determine the most appropriate buffer widths and vegetative cover. The establishment of such management should also not result in adverse impacts on water status.	+	+	+	+	+	0	0	0	+	0	0

Measure	BFF	P	HH	S	W	CC	MA1	MA2	MA3	CH	L
F15: Eutrophication and Sedimentation - Enhance sediment control through improved design of sediment traps, increased number and wider distribution of sediment traps and blankets.	+	+	+	+	+	0	0	0	+	0	0
F16: Hydromorphology - Enhance drainage network management – optimise drainage in peat soils to minimise potential for nutrient entry to surface waters.	+	+	+	+	+	0	0	0	+	0	0
Physical Modifications (Key Sector: Freshwater Morphology / Marine Morphology)											
PM2: Support voluntary initiatives.	+ / -	+	+	0	+	+	+/-	0	+	0 / -	0 / -
PM4: Channelisation impact remediation schemes.	+ / -	0/-	0/-	+ / -	+	-	-	0	+ / -	0 / -	0 / -
PM5: Over-grazing remediation.	+ / -	0	0	+	+	0	0	0	+	0 / -	0 / -
PM7: Impassable barriers remediation schemes.	+ / -	+ / -	+ / -	+ / -	+	-	-	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*

APPENDIX B

Clarifications and Additional Information Requested in the Submissions

The following clarifications and additional information are provided in response to requests in the submissions received during the consultation period. (Amendments are shown in italics)

In the boxed section on page 25, the following wording is added to the second paragraph:

> **Municipal Discharges.** Inadequately treated effluents and spills or leakage from municipal sewerage networks, *including combined sewer overflows*, can lead to unacceptable levels of pollutants in receiving waters. These pollutants can damage water quality and downstream uses such as shellfish waters.

In Chapter 5, in Table 5.1 on page 36, the following row is added to the table:

Topic	Title	Summary of Objectives	Links to PRP
Biodiversity	*UN Convention on Biological Diversity (1992)*	*Objectives include the maintenance and enhancement of Biodiversity.*	*The impacts of the PRP on biodiversity are largely expected to be positive, with potential negative impacts likely occurring only at a site level (e.g. construction of new infrastructure). The favouring of infrastructure that carry a lower risk of damage to biodiversity could however be emphasised in the PRP in order to ensure that the operations or activities are consistent with the commitment under this Convention to halt biodiversity loss by 2010.*

In Chapter 5, in Table 5.1 on page 36, the following text changes are made:

Topic	Title	Summary of Objectives	Links to PRP
Environment / Pollution Prevention	Ospar Convention (1992) The Convention for the Protection of the Marine Environment of the North-East Atlantic	The current instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. Objectives include the protection of the marine environment.	The purpose of the PRP is to achieve the water quality status parameters in the Shellfish Waters Directive in all designated shellfish waters. As such the PRP will aim to prevent pollution of the marine environment. In 2004, a list of threatened and/or declining species and habitats in strict need of protection was established under the OSPAR Convention. *This list should be noted and the Competent Authority should ensure that licensable operations or activities included in the PRP are consistent with the Convention.*

In Chapter 5, in Table 5.3 on page 41 the following rows are added:

Topic	Title	Summary of Objectives	Links to PRP
Water	*The European Communities (Good Agricultural Practices for Protection of Waters) Regulations 2009 (SI 101 of 2009)*	*The European Communities (Good Agricultural Practices for Protection of Waters) Regulations 2009 revise and replace the previous Regulations made in 2006 and 2007. They provide for strengthened enforcement provisions and for better farmyard management in order to comply with an ECJ judgment in relation the Dangerous Substances Directive. They also provide the legal basis for the operation of a derogation under the Nitrates Directive granted to Ireland by the European Commission.*	*See EU Nitrates Directive.*
	The Environmental Objectives (Surface Water) Regulations (SI 272 of 2009)	*The Regulations apply to all surface waters and provide for: the establishment of legally binding quality objectives for all surface waters and environmental quality standards for pollutants, the examination and where appropriate, review of existing discharge authorisations, classification of surface water bodies, inventories of priority substances and drawing up of pollution reduction plans by coordination local authorities (in consultation with the EPA) to reduce pollution by priority substances and to cease and/or phase out discharges, emissions or losses of priority hazardous substances.*	*Requires drawing up of pollution reduction plans.*

In Section 6.2.1.2, Table 6.2, on page 47 the following amendment has been made:

SEA / ***PRP***	**Objective 1 BFF**	**Objective 2 P**	**Objective 3 HH**	**Objective 4 S**	**Objective 5 W**	**Objective 6 C**	**Objective 7 MA1**	**Objective 8 MA2**	**Objective 9 MA3**	**Objective 10 CH**	**Objective 11 L**
Protect or improve shellfish waters in order to support shellfish life and growth and thus contribute to the high quality of shellfish products directly edible by man	*Y/N*	Y	Y	Y	Y	Y / N	Y / N	Y	Y	Y / N	Y / N
Achieve compliance in designated shellfish waters with the water quality parameter values the Shellfish Waters Directive Shellfish Waters Regulations	Y	Y	Y	Y	*Y/N*	Y / N	Y / N	Y	Y	Y / N	Y / N
Determine factors responsible for non-compliance with the aforementioned water quality parameters	0	0	Y	0	Y	0	Y / N	0	Y	0	0
Ensure that implementation of the *programme* does not lead, directly, or indirectly, to increased pollution of coastal and brackish waters	Y	Y	Y	Y	Y	Y / N	Y / N	Y / N	Y	0	0

Key: Y = Yes, compatible N = No, not compatible 0 = Neutral Y / N = May be compatible depending on how it is implemented

In Section 7.1, on page 52, the following sentence is added to the end of the second paragraph:

> *It should be noted that the objectives of the Basic Measures apply to all waterbodies in Ireland and not just to designated shellfish waters. While a water body may meet its water quality objectives under the EU Shellfish Waters Directive, these may not be sufficient to result in adequate protection for areas which are designated under other EU legislation, i.e. EU Habitats Directive or EU Birds Directive.*

In Section 8.1.2.2, on page 72, the following sentence is added to the first paragraph in the location shown:

UP1 and UP3 address the impacts from unsewered properties at the earliest pre-planning stage when significant reduction of risk can be achieved by ensuring that systems are correctly located and are designed to achieve the intended treatment levels. Amendment of building regulations to include codes of practice and requirements for certification of on-site systems will have direct positive impacts on the soil and water environments by reducing cumulative pressures from new unsuitable systems being commissioned once the regulations are passed, in the short to medium term. *In a move toward this, the EPA has recently published a Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses (p.e. ≤ 10), 2009. The code of practice establishes an overall framework of best practice in relation to the development of wastewater treatment and disposal systems, in unsewered rural areas, for protection of the environment and specifically water quality.* Both alternatives are heavily reliant on the planning consent system for success and, the consistent implementation of these alternatives will be dependent on the awareness and understanding of the regulations by individuals and administrators / planners.