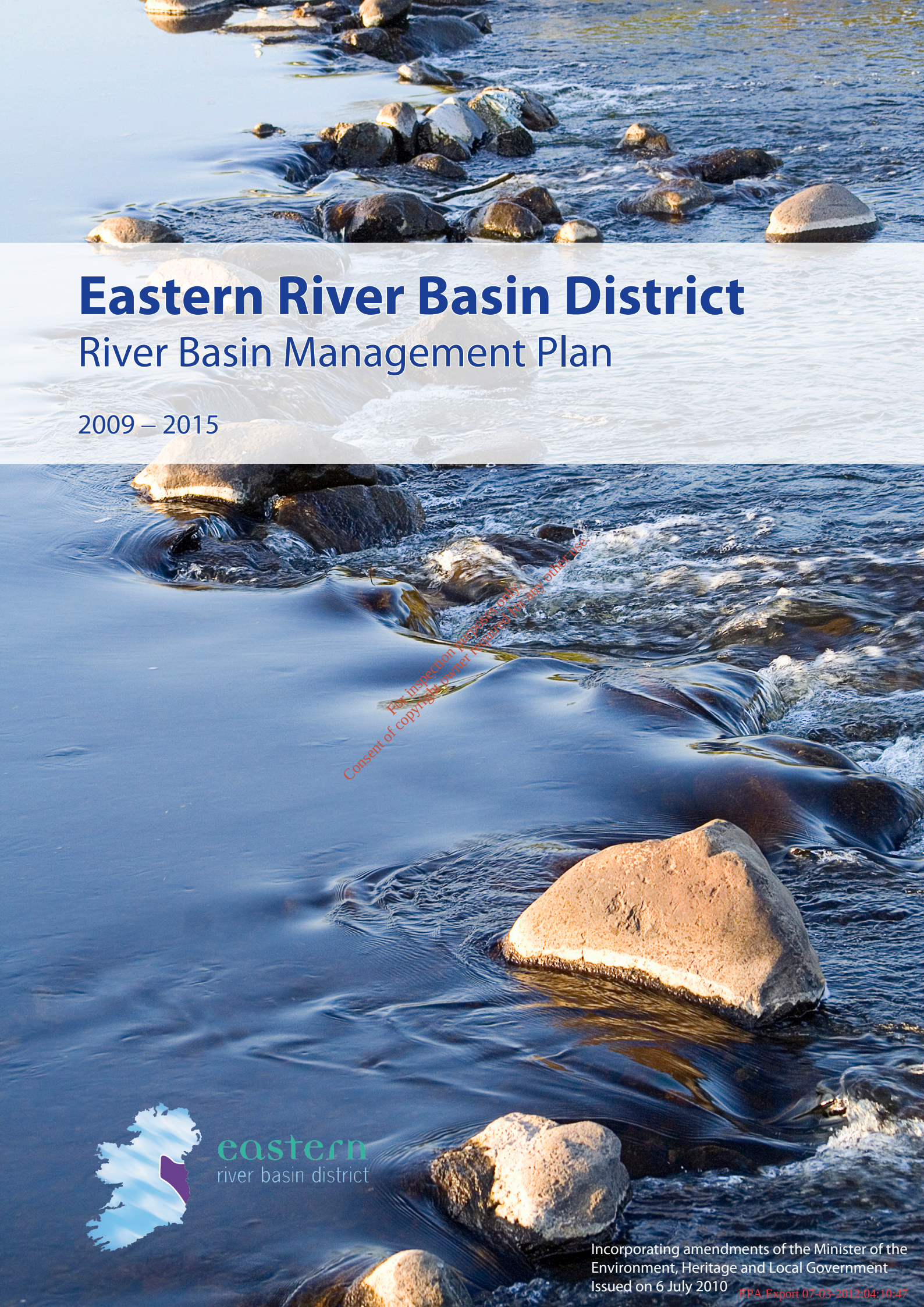


Eastern River Basin District

River Basin Management Plan

2009 – 2015

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eastern
river basin district

Incorporating amendments of the Minister of the Environment, Heritage and Local Government Issued on 6 July 2010

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Foreword by Cllr. J. J. Power Chairman of the Eastern River Basin District Advisory Council

As Chairman of the Advisory Council I am particularly encouraged by the progress that has been made in implementing the Water Framework Directive in the Eastern River Basin District. The Directive has far reaching environmental benefits for the future of the quality of the environment in our rivers, lakes estuaries, groundwaters and coastal waters.

It is important to recognise the contribution made by the Local Authorities within the District, who acting jointly are the competent authority for making the River Basin Management Plan. I also wish to thank all the members of the Advisory and Technical Councils. Previously we have collated information on all of our waters in a way which has never been attempted before and gained a detailed understanding of the pressures currently facing them. In this document we set out our strategy and plan of actions to achieve Good Status for all our waters.

Introduction by the Chairman of the Technical Council

I would like to thank all of the Agencies and members of both the Technical Council and the Advisory Council for their continued participation and wholehearted support of this process, since the councils were formed in 2005.

Public involvement in the Eastern River Basin District began in 2003. Publication of the "Water Matters" report for each of the eight river basin districts provided all interested parties with an overview of the water management issues affecting each District in Ireland. Comments were invited from all interested parties and the submissions received assisted greatly in the development of this River Basin Management Plan.

Water is a very precious resource and we must do everything in our power to protect and conserve it. A significant technical effort has gone into preparing this Plan, which highlights the threats to our water quality and quantity and the actions that may need to be taken to provide better protection and enhancement for waters and aquatic ecosystems. It is important that the problems are addressed and that interested parties have a say in what needs to be done.

Water quality is a matter of concern to a very wide range of people and working together we can realise the ambitious aims of the Water Framework Directive to restore all our waters to Good Status.

Tom Leahy, Dublin City, Executive Manager (Engineering)

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

Dublin City Council
Comhairle Cathrach Bhaile Átha Cliath

comhairle chontae na mí
meath county council

Fingal County Council
Comhairle Contae Fhine Gall

dlr
Comhairle Contae County Council

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

CDM *Consultants to the Eastern River Basin District*

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List of Acronyms

AWB	Artificial Water Body
CAP	Common Agricultural Programme
CIS	Common Implementation Strategy
CSO	Combined Sewer Overflow
cSAC	Candidate Special Area of Conservation
DAFF	Department of Agriculture, Fisheries & Food
DEHLG	Department of the Environment, Heritage & Local Government
EDEN	Environmental Data Exchange Network
EPA	Environmental Protection Agency
EPRTR	European Pollutant Release and Transfer Register
ESB	Electricity Supply Board
EU	European Union
FRMP	Flood Risk Management Plan
GDSDS	Greater Dublin Strategic Drainage Study
GSI	Geological Survey of Ireland
GWTDE	Groundwater Dependent Terrestrial Ecosystem
HMWB	Heavily Modified Water Body
HSE	Health & Safety Executive
IBEC	Irish Business and Employers Confederation
ICZM	Integrated Coastal Zone Management
IDEA	Irish Doctor's Environmental Association
IPPC	Integrated Pollution Prevention Control
LA	Local Authority
MMU	Mobile Monitoring Unit
NHA	National Heritage Area
NPWS	National Parks and Wildlife Service
NSS	National Spatial Strategy
OPW	Office of Public Works
OSWTS	On-site wastewater treatment systems
PE	Population Equivalent
PMS	Project Management System
pNHA	Proposed Natural Heritage Area
PoM	Programme of Measures
PPP	Plant Protection Products
REPS	Rural Environmental Protection Scheme
RBD	River Basin District
RBMP	River Basin Management Plan
RBMS	River Basin Management System
REACH	Registration, Evaluation and Authorisation of Chemicals
S.I.	Statutory Instrument
SAC	Special Areas of Conservation
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SUDS	Sustainable Urban Drainage Systems
UWWTD	Urban Waste Water Treatment Directive
WFD	Water Framework Directive
WMU	Water Management Unit
WSIP	Water Services Investment Plan
WWTW	Wastewater Treatment Works

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1 Introduction

1.1 Background

The EU Water Framework Directive 2000/60/EC is being implemented across Europe, signalling a change of thinking in the way that water issues are addressed. The Directive commits member states to preventing deterioration and achieving at least good status in our rivers, lakes, estuaries, coastal and ground waters by the year 2015. It offers a degree of flexibility to each member state in the way it is implemented. The Directive takes a unified approach around the concept of water as a precious natural commodity that must be preserved and regulated to a higher standard.

The Directive is a very ambitious piece of legislation which will gradually encompass all water related laws. It has a long timeframe necessary to achieve all of its goals. So far, Ireland has successfully kept to the programme defined by the EU and detailed in Table 1.1. As with all our European neighbours, if we do not meet the challenges set out by the Directive, we will have failed ourselves and future generations.

Table 1.1: Timetable of Directive Implementation

Deadline (December)	Action Required	
2000	Directive enters into force.	✓
2003	Directive to be transposed into national law. International River Basin Districts and River Basin Districts to be identified. Competent authorities to be identified.	✓
2004	Characterisation of surface and groundwaters to be completed. Impacts of human activity (industry, farming etc) to be identified. Economic analysis of water use to be completed. Location and boundaries of water bodies to be identified. Reference conditions for water status to be defined. Register of protected areas to be established.	✓
2006	Environmental monitoring to be established and operational to ensure comprehensive view of water quality in each River Basin District. Work programme for production of River Basin Management Plans for each River Basin District to be published.	✓
2007	Interim overview of the significant water management issues for each River Basin District to be published.	✓
2008	Draft River Basin Management Plans to be published for consultation. Draft programmes of measures to be established in each RBD.	✓
2009	River Basin Management Plans to be finalised and published. Programmes of measures to be established in each RBD to meet environmental objectives.	✓
2010	Water pricing policies to be in place.	
2012	Programmes of measures to be fully operational. Interim progress reports to be prepared on implementation of planned programmes of measures.	
2015	Main environmental objectives to be met. River Basin Management Plans to be reviewed and updated every six years thereafter.	

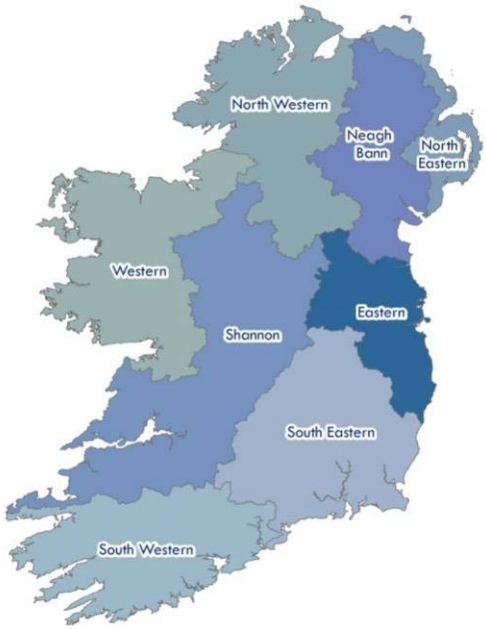
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Notwithstanding this, our activities must also be sustainable so that we protect our waters. The changes that are necessary will not only affect the government, public authorities, agriculture and industry; they will also apply to every individual. Everything that we do, from washing our dishes to fertilising our gardens, has a consequence for our waters.

The area of land that a river drains is called its catchment or basin. The basin contains all surface waters (rivers, lakes, reservoirs, estuaries and coastal waters) and underground waters, together with the lands that drain into them. The activities that take place anywhere in the basin, even remote upland areas, can affect the waters downstream. River basins are natural hydrological units and provide a sensible framework to manage our waters.

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The island of Ireland (classified under the Directive as Ecoregion 17) has been divided into eight river basin districts to help manage implementation of the Directive and a River Basin Management Plan (the "Plan") has been developed for each river basin district. This Plan is the latest in a series of documents implementing the Directive in Ireland meeting deadlines identified in the Directive.



The Water Framework Directive was enacted in Ireland in 2003 through the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003) which have since been amended in 2005 and 2008. This legislation is available at www.wfdireland.ie.

The Water Framework Directive legislation specifically identifies:

- the competent authority for coordination and reporting nationally as the EPA;
- the competent authorities for the Plan and Programme of Measures (POM) as the relevant Local Authorities, acting jointly; and
- the co-ordinating authority for each individual basin district. Dublin City Council is the coordinating and contracting authority for the Eastern River Basin District.

The first important milestone document, known as the "Characterisation Report" was prepared in December 2004 by the relevant local authorities covering each river basin district, in accordance with Section 7(2 & 3) of the European Communities (Water Policy) Regulations 2003. It includes (a) an analysis of the river basin district's characteristics; (b) a review of the impact of human activity on the status of surface waters and of groundwater, and (c) an economic analysis of water use. A summary report, known as the Article V Characterisation Report was submitted by the Environmental Protection Agency (EPA) to the European Commission.

A network of monitoring sites for the Directive was established by the EPA in December 2006 covering rivers, lakes, coastal waters and estuaries as well as groundwater. The monitoring is undertaken by several organisations including the EPA, Local Authorities, the Marine Institute and the Inland Fisheries Ireland.

A second milestone report, known as "Water Matters" was prepared in December 2007 by the relevant local authorities covering each river basin district. It includes a preliminary overview of significant water management issues across each river basin district and actions suggested to solve these problems, in addition to inviting public comment.

The Draft River Basin Management Plan for the Eastern River Basin District was issued in December 2008 for a 6 month period of public consultation. The submissions received on the draft Plan have been reviewed and incorporated in this Final River Basin District Management Plan (The Plan) as appropriate. This Plan draws on the background milestone documents (listed in the bibliography) to describe the actions that are proposed to ensure the necessary protection of our waters over the coming years. It represents a major milestone in the implementation of the Directive and follows on from the previous major elements of work described above. It sets out how the aims and objectives of improving and protecting water quality and ecology in the waters of each river basin district could be achieved, by means of a Programme of Measures.

This Plan has been produced jointly by the local authorities and a project team for the Eastern River Basin District. There are twelve local authorities with lands in the Eastern River Basin District (shown on Map 1.1), and these will be the prime implementing agencies for the actions described in the Plan, although actions will also require the involvement of other state and private organisations. Coordination of these efforts is being developed through an Eastern River Basin District Technical Council which includes all of the local authorities along with agencies responsible for implementing relevant legislation.

The Eastern River Basin District Advisory Council has also provided valuable contributions to the development of the Water Matters Report and this Plan.

The Legend in Map 1.1 also shows the topography of the Eastern River Basin District, which can be referenced for all other maps within this Plan.

National advice regarding the preparation of River Basin Management Plans was provided by the Department of the Environment, Heritage & Local Government (DEHLG), which indicated that there will be four levels of reporting (as shown in Figure 1.1):

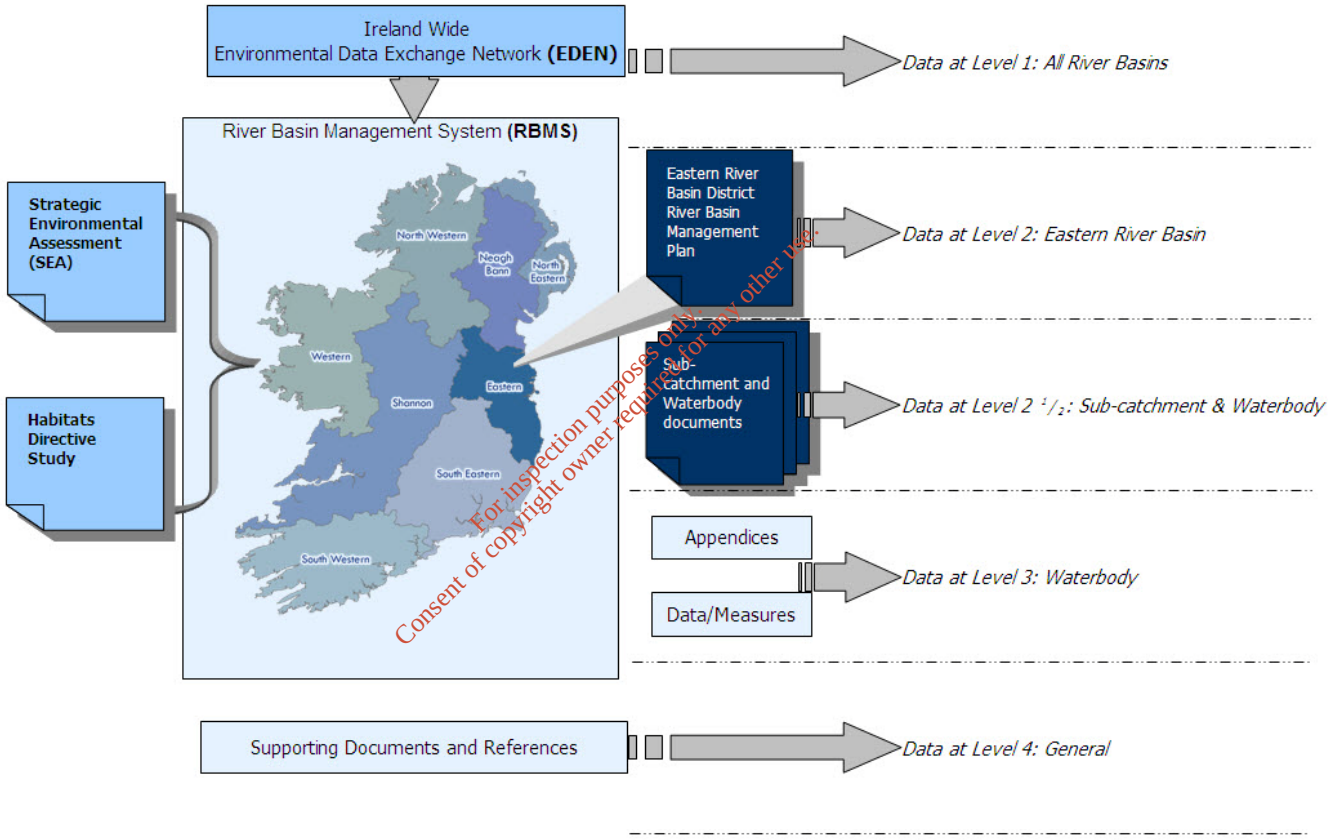
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1. A high level report for the island of Ireland produced by the two governments (Ireland and Northern Ireland) entitled "Managing Our Shared Waters – Working Together";
2. A River Basin Management Plan for each district for public consultation (this Plan);
3. Electronic submissions of data and measures to the EU; and
4. Supporting documents and research.

The four levels provide information to an increasing level of detail. The Eastern River Basin District has also produced an additional level of information which is intended to provide detailed supporting information for this Plan. It presents a description of each water body and sub catchment, explains the pressures affecting the waters and the measures needed to deal with these pressures; this is in electronic form (PowerPoint slides) and can be downloaded from the website www.erbd.ie.

In addition, it should be emphasised that the River Basin Management System developed by the Eastern River Basin District contains all data sets describing the District, a detailed analysis of pressures, the recommended actions to address those pressures, and all of the reasoning for that selection, including the costs and effectiveness of each measure in each location.



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Figure 1.1: Levels of Reporting

This Plan should be read in conjunction with other supplementary documentation, including background reports and in particular should be read in conjunction with the Water Matters Report, which can be accessed at the Eastern River Basin District website at www.erbd.ie, or it can be obtained from your local authority. A Strategic Environmental Assessment and Appropriate Habitats Assessment, under the EU Habitats Directive, have also been prepared as part of the Plan development process. The findings of these reports have been fully considered when developing this document and the Programme of Measures. A full set of supporting documents can be found at www.wfdireland.ie; key documents are listed in the bibliography at the end of this Plan.

It is vital that the public participate in the planning and implementation process. To encourage participation, an Advisory Council has been established for each river basin district. The Advisory Council for the Eastern River Basin District consists of elected representatives, community representatives and other stakeholders. The knowledge, expertise and views of the Advisory and Technical Councils have been integral contributions in the preparation of this Plan.

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This Plan will be tabled for formal adoption by each local authority in October/November 2009 in accordance with national legislation. The agreed Programme of Measures, identified in the Plan as being required to rectify the problems identified over the planning process, will then start to be implemented. Implementation will commence from 2010 (with all measures for this first cycle being implemented by 2012), with the target of improving significant numbers of waters to good status by 2015. In addition to improving waters the Plan ensures that no waters will be allowed to deteriorate, including special protected areas such as bathing waters, drinking water sources and protected habitats.

In 2015 a second Plan will be prepared, learning from our experience and successes up to that point. This second Plan will include the development of a new Programme of Measures to manage the waters up until 2021, when a third Plan will be developed.

1.2 Mobile Monitoring Unit

The Eastern River Basin District uniquely established a Mobile Monitoring Unit (MMU) with a watershed warden to undertake investigative monitoring in sub catchments across the Eastern River Basin District. The objective of this work was to help identify the causes of problems in our waters where these were unknown.

The watershed warden worked with specialist staff in the local authorities to investigate causes of pollution and poor ecological status throughout the area. The work was undertaken across the Eastern River Basin District gaining a detailed knowledge of "on-the-ground" conditions and local water quality issues. This area-specific data proved invaluable in assisting the process of selection of corrective actions to protect and enhance our waters.

Intensive investigations were undertaken in approximately 35 sub catchments and in all of the estuaries and coastal waters (comprising 74 monitoring locations ranging from the Boyne to the Avoca Estuary). Map 1.2 shows the areas visited by the watershed warden.

This initiative also had a public participation element, and in tandem with the scientific work, an environmental awareness campaign was successfully implemented in 25 primary schools across the Eastern River Basin District. The programme was aimed at educating primary school children about water quality matters and increasing the visibility of the water generally and it is estimated that 1,000 children participated in the programme.

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1.3 Comments on the Draft Plan

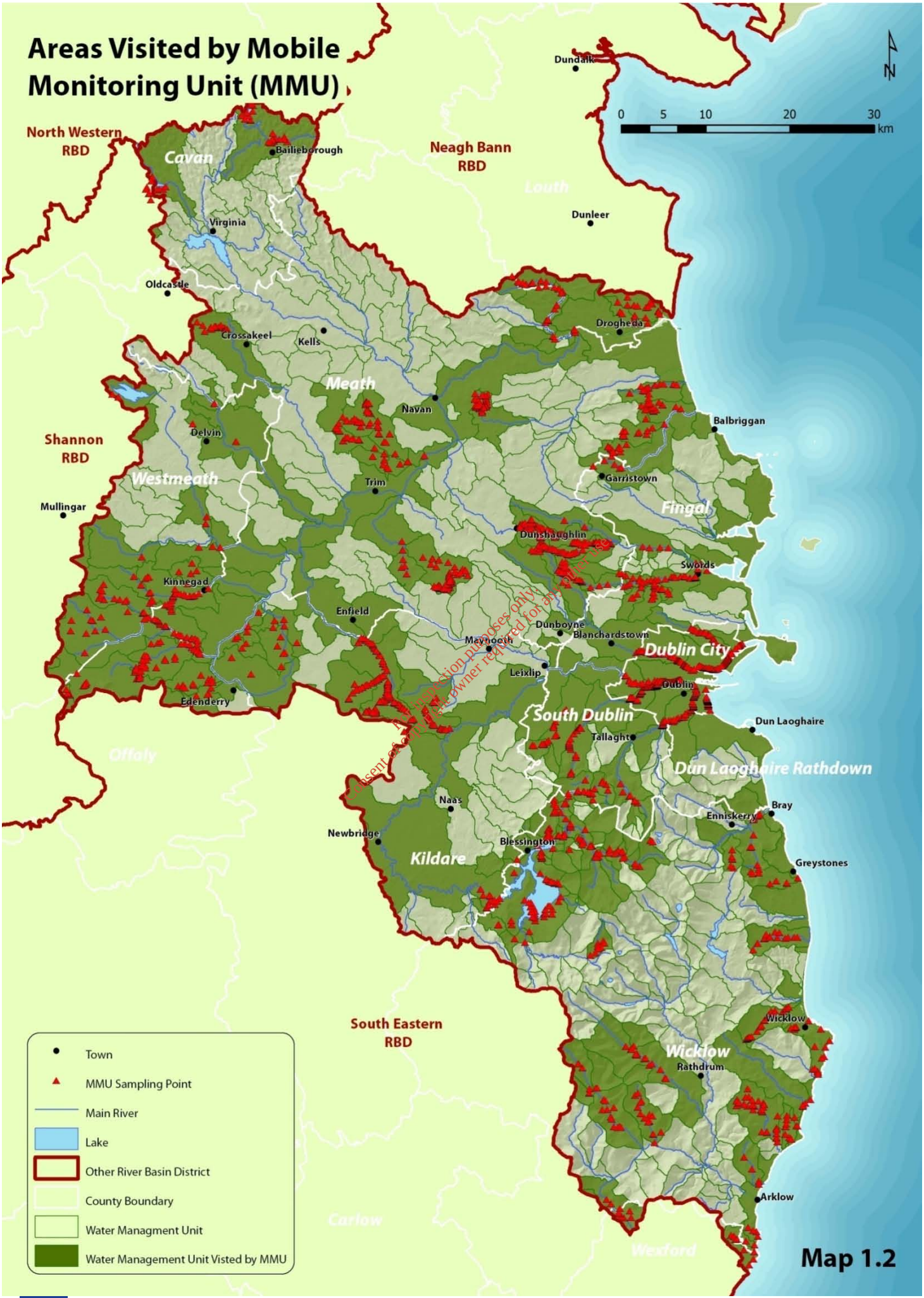
This Plan will require actions from individuals and industries, along with government bodies, The work so far has required a considerable amount of technical expertise, but has also benefited from the views and knowledge of the public and interested parties whose views have been actively sought at every stage.

The Plan was subject to a six-month public consultation period (closed 22nd June 2009) and stakeholders' submissions have been collated and taken into account in this final Plan. Submissions and how they were incorporated into the plan are discussed in the Submissions Digest available on the ERBD website and summarised in Appendix A(i). The Plan will come into effect when adopted by the competent authorities as set out in Article 13 of the WFD and in the European Communities (Water Policy) (Amendment) Regulations 2008, S.I. No. 219 of 2008.



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2 General Description of the Eastern River Basin District

2.1 Background

The Eastern River Basin District (shown on Map 2.1) is home to rich agricultural land, holiday coastline, the city of Dublin and the towns which form the Greater Dublin Area and its commuter belt. With land area of around 6,300 km^2, the Eastern River Basin District covers about one tenth of the entire country and has 350 km^2 of marine waters.

2.2 People

Around 1.6 million people, 40% of Ireland's population, live in the Eastern River Basin District. The population is growing every decade, partly due to the internal and external migration to live and work around Dublin.



The distribution of people and their activities varies from rural agricultural communities to the city of Dublin and its commuter belts. The population density is high compared to the rest of Ireland, and the region has seen a population growth of over 10% in the past ten years.

8% of the land area in the basin is urban, 75% agricultural and the remainder natural. Within the last five years the population in Dublin has increased by 4%, whilst Dublin commuter towns have expanded at rates as high as 51%. The greatest population increases have been in villages with a population of between 50 and 1,500 people in Dublin, Meath, Kildare and Wicklow.

Dublin and Greater Dublin are home to 90% of the Eastern River Basin District's population; most of the urban population outside this area is around rivers or ports; others live in smaller towns, villages or one-off houses in rural areas. The growing population, especially in Dublin's commuter belt, is putting increasing pressure on the systems that deliver drinking water and treat wastewater and is also creating development demand throughout the basin.

The Eastern River Basin District incorporates all or part of twelve local authority areas: Dublin City, Meath, Kildare, Wicklow, Cavan, Dun Laoghaire-Rathdown, Fingal, Offaly, South Dublin, Westmeath and small portions of Wexford and Louth.

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2.3 Terminology

Within the Water Framework Directive, water bodies have particular definitions based on their geophysical settings and typologies. They are defined as follows:

Surface water means inland waters, except groundwater, transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters (as defined by the United Nations Convention on the Law of the Sea, 1982 and normally extending 12 nautical miles from the shoreline).

Body of surface water means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

Groundwater means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

Body of groundwater means a distinct volume of groundwater within an aquifer or aquifers

Inland water means all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.

River means a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course.

Lake means a body of standing inland surface water.

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Transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.

Coastal water means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters.

Artificial water body means a body of surface water created by human activity.

Heavily modified water body means a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provisions of Annex II.

Waters

Rivers: The main river catchments in the Eastern River Basin District are the Boyne, the Nanny/Delvin, the Liffey, and the Avoca/Vartry. The Avoca/Vartry includes many smaller catchments along the coastline (shown in Map 2.2). There are 365 river water bodies in the Eastern River Basin District.

Lakes: The Eastern River Basin District includes 524 natural lakes. Six of these, and two reservoirs, exceed 50 hectares in size, the biggest being Poulaphuca reservoir at around 1,950 hectares. The Directive requires that we report on lakes that exceed 50 hectares or those which contain protected areas – this is a total of 28 lakes and reservoirs in the Eastern River Basin District.

Transitional and Coastal Waters: From Drogheda all the way south to Arklow, the river waters enter the Irish Sea along 130km of coastline from the Boyne estuary, Malahide, Dublin, Killiney and Brittas Bays. The Eastern River Basin District contains all the coastlines of Meath, Fingal, Dublin, Dublin City, Dun Laoghaire and Wicklow (eight water bodies), as well as eleven estuaries and two lagoons.

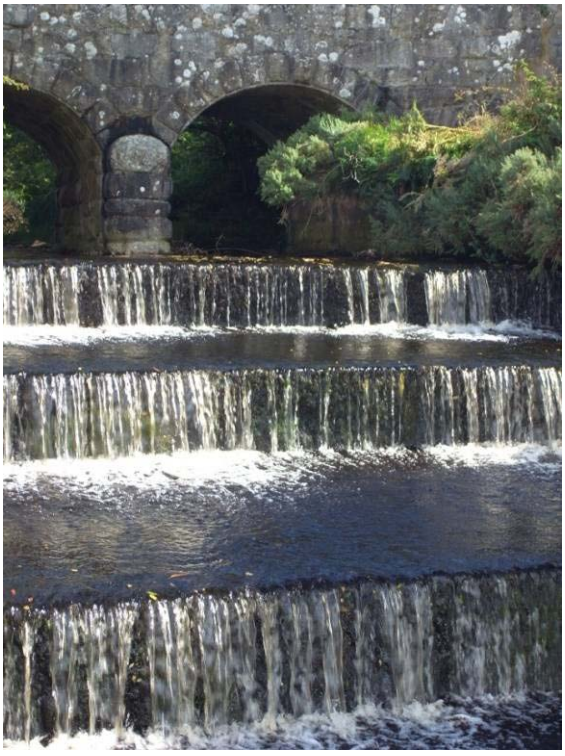
Groundwaters: As with other basin districts, the water system below ground in the East is quite complex because of the wide range of rock types and soils within the Eastern River Basin District. The underground aquifers can cross surface water catchment and boundaries. There are 75 groundwater bodies in the Eastern River Basin District, some of which are restricted to urban areas.

Artificial Waters: These are the eight man-made water bodies in the Eastern River Basin District.

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Table 2.1: The number of water bodies per water type

Water Type	Number of Water bodies
Rivers	365
Lakes and Reservoirs	28
Estuary	13
Coastal	8
Groundwater	75
Artificial Water Bodies	8
Total	497



All of the activities in the basin have the potential to impact our waters and therefore must be sustainably managed.

The Eastern River Basin District has also produced an additional level of information which is intended to provide detailed supporting information for this Plan. It includes a description of each water body and sub catchment. This is in electronic form and can be downloaded from the website www.erbd.ie.

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3 How Healthy are Our Waters

3.1 Background

In 2004 a report was prepared which provided the first ever comprehensive analysis of data and information in the Eastern River Basin District. This was required by the Directive and was intended to identify those waters which could be at risk of not achieving the objectives of the Directive and to identify gaps in data and information to inform the design of the monitoring networks.

The characterisation was based on the limited data available and on a wide range of risk assessments which evaluated the problems that could be expected based on a variety of factors including known discharges and land use. The percentages of waters that were thought to be "at risk" at that time are shown in the Table 3.1. The water bodies and their risk assessments are shown in Figure 3.1 (surface waters) and Figure 3.2 (groundwaters); the complete Characterisation Report which presents the risk assessments for each water body is available on the website at www.erbd.ie.

It should be noted that the 2004 characterisation risk assessments were based on limited data sets and were intended to be the first step in the WFD process. The data used in the status assessments undertaken in 2008 and 2009 and described later in Section 3, are based on more comprehensive data and improved methods and so provide a more reliable indicator of the condition of our waters.

Table 3.1: Risk Assessment 2004

Risk Category	Number of water bodies	% by Number	% by Area of RBD
At Risk	237	49.6	48.6
Probably At Risk	165	34.5	25.5
Probably Not At Risk	54	11.3	23.6
Not at Risk	22	4.6	2.3
Total	478	100	100

Note: these figures exclude artificial water bodies and 2 lakes subsequently included in the WFD process.

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Figure 3.1: Risk Assessment for Surface Waters (from Characterisation Report, 2004)

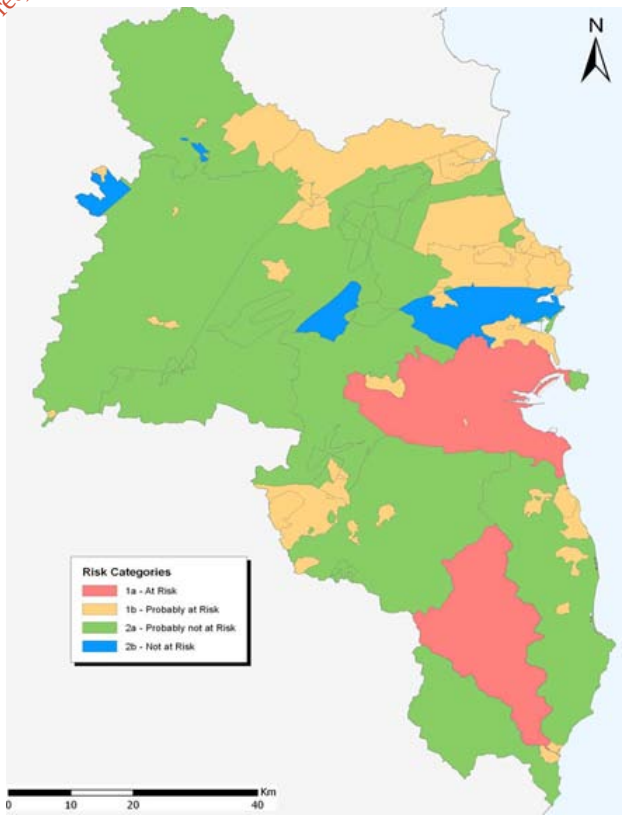


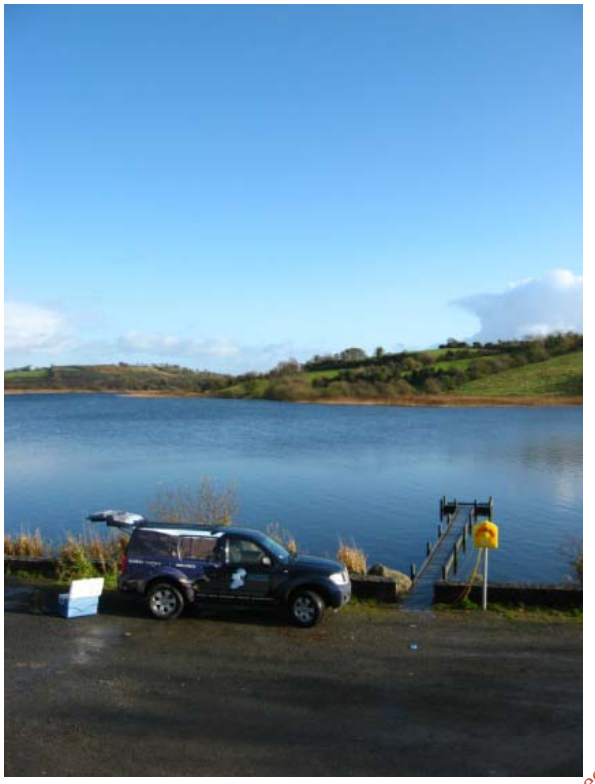
Figure 3.2: Risk Assessment for Groundwaters (from Characterisation Report, 2004)

Detailed maps and further information on the risk assessment are available in the Risk Characterisation Report (2004)

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3.2 Monitoring Network

A network of monitoring sites (shown on Map 3.1) for the Directive was identified by the EPA in 2006, covering rivers, lakes, coastal waters and estuaries as well as groundwater. Several organisations, including local authorities, the EPA and Inland Fisheries Ireland are responsible for data collection. Details of the EPA monitoring network can be seen on www.epa.ie/whatwedo/wfd/monitoring/.



Three types of monitoring have been specified by the Directive:

Surveillance Monitoring: this is intended to be a permanent set of monitoring stations at which all specified ecological and chemical quality elements are examined. The surveillance monitoring programme contains sites representative of all waters nationally and is intended to show long term changes in water quality;

Operational Monitoring: to collect data specific to the pressures being experienced in particular waters; and

Investigative Monitoring: where the reason for a particular exceedance is unknown, or to ascertain the magnitude and impacts of accidental pollution.

Data are collected by a variety of means and reported to the EPA. Some of these data sets are stored in a central database (called Environmental Data Exchange Network (EDEN)). In the Eastern River Basin District, a River Basin Management System has been created to assist in river basin planning (see Section 8). The monitoring data stored in EDEN is also directly accessible through the River Basin Management System thus allowing rapid access to these critical data sets.

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In the future this data will allow local authorities and stakeholders to monitor progress in improving the status of waters, assess the impacts of measures that have been implemented and guide the next Plan when it is developed in 2015.

3.3 How We Determine the Status of Our Waters

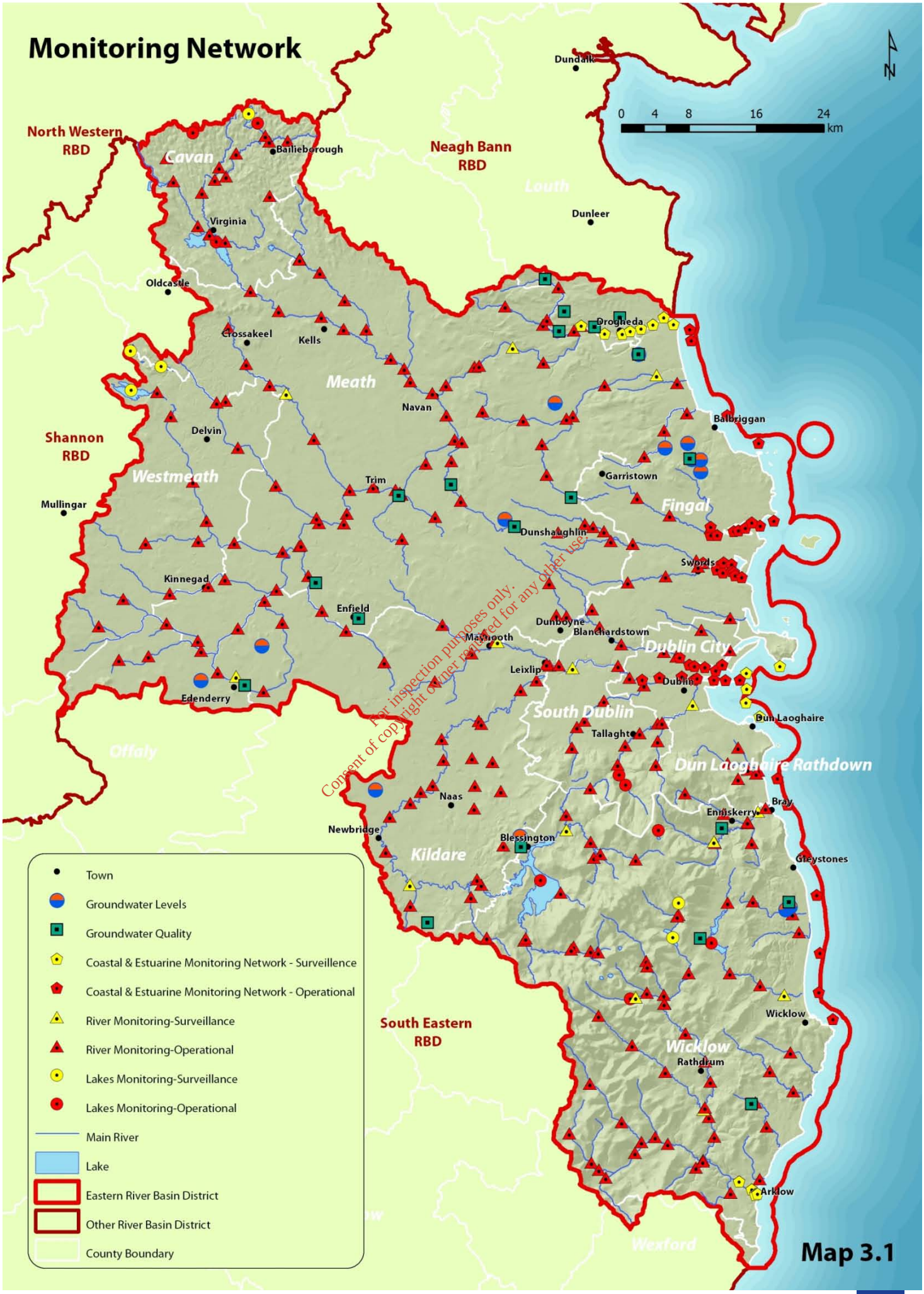
The Directive's classification process has helped us to improve our understanding of the health (or status) of our waters. In 2007, we began more comprehensive monitoring of our waters to provide results for new classification schemes. Monitoring information is collected by the EPA, Inland Fisheries Ireland, Marine Institute, Office of Public Works, National Parks and Wildlife Service, Waterways Ireland and local authorities. The EPA is responsible for assessing this monitoring data and assigning status to Ireland's surface waters and groundwaters.

This Plan presents the Eastern River Basin District's water status (assigned by the EPA) using the new systems and monitoring information for the first time. These classifications are based on two years of data and reflect the best current understanding of status, however, they are still considered as "interim" by the EPA. We expect changes to water body status as the monitoring data and the scientific tools used to interpret them develop. Over time, we can build a picture of changes in our waters, improvement as a result of actions, or decline due to new problems. The classification systems will help us to plan the actions needed to protect or improve waters in accordance with the Water Framework Directive and, in due course, to show how our waters have benefited.

The monitoring programme started in 2007 and the collected data formed the basis for the classification by the EPA of water status. To enable consistency across all member states the classification scheme has been harmonised so that each country classifies status in a comparable way.

- There are five categories of river and lake water status – high, good, moderate, poor and bad.
- Transitional and coastal waters are classified as high, good or moderate.
- Groundwater is categorised as either good or poor.

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A detailed description of the classification system can be found on the Eastern River Basin District web site www.erbd.ie and a summary is provided below.

The EPA will periodically update status information as new monitoring information becomes available. The first update was carried out in 2009 to improve confidence in classification for this final river basin management plan.

There may be occasions when a natural event such as a flood or a drought causes waters to drop temporarily below status standards. These cases will be taken into account by the EPA when undertaking future status reviews. Such temporary deteriorations will be investigated to assess their causes and to determine whether practical steps can be taken to mitigate their impacts.

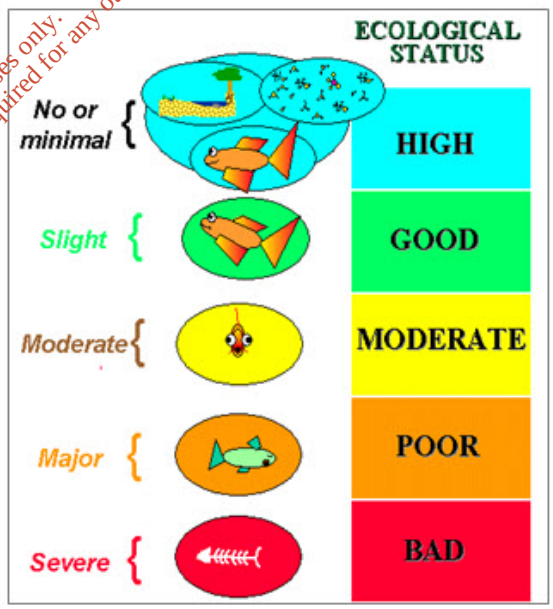
Details of the monitoring programme, classification standards and status setting process for surface and groundwaters are available in our background documents, available through the Eastern River Basin District website www.erbd.ie. More information about the condition of our waters is available in our background documents and the detailed status of individual rivers, canals, lakes, reservoirs, marine waters or groundwaters can also be viewed there.

In the past, we have considered water quality predominantly by looking at water quality results (from samples taken from our waters). The Directive asks us to take a more comprehensive view of the condition of our waters considering not only water quality results but also biology, morphology (physical condition) and hydrology (quantity of water). This balance of interacting issues affecting our waters has been compiled for the first time by the EPA. A summary of these issues is given below, as are the results for the Eastern River Basin District.

Classification of Surface Water Status

Surface waters must achieve at least good ecological status and good chemical status.

Figure 3.3 Status Levels in Our Waters



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Surface Water Ecological Status

The ecological status of natural surface waters falls into one of five classes: high, good, moderate, poor or bad.

Some surface waters identified as artificial or heavily modified are subject to a different set of objectives, with the focus on ecological potential rather than ecological status. These waters are classified as either good ecological potential (equivalent to good status) or less than good ecological potential (equivalent to moderate ecological status).

The surface water ecological classification combines three factors: biology; supporting water quality conditions (general conditions and specific pollutants); and supporting hydrology and morphology (physical condition), as described below.

1) Biology

Surface water biology classification systems describe the extent to which human activity has altered the ecological communities present in our waters by comparing the condition of aquatic animals and plants with undisturbed or pristine conditions.

Table 3.2: Ecological Communities in Surface Waters

	Rivers and lakes	Marine (estuaries and coastal waters)
Animals	Fish Aquatic invertebrates (for example insects, crustaceans, molluscs, worms)	Fish (in estuaries) Aquatic invertebrates living in soft sediments on the seabed
Plants	Diatoms (microscopic plant organisms Macrophytes (larger aquatic plants) Filamentous algae Phytoplankton (a microscopic plant containing the green pigment chlorophyll) in lakes and deep rivers	Seaweeds Seagrasses Marine phytoplankton

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2) Supporting water quality conditions (general conditions and specific pollutants)

The classification system also includes supporting factors that affect ecological status, either by providing suitable water quality for aquatic plants and animals to thrive or by reducing that quality:

- General conditions are assessed by measuring oxygen, nutrients, transparency, (water clarity), temperature, acid status and salinity; together, they describe the general physicochemical status of surface waters; and
- The levels of specific pollutants, chemical pollutants (including metals), pesticides and hydrocarbon compounds of local relevance in Ireland.

The levels or concentrations of the physicochemical parameters and specific pollutants are compared to environmental quality standards set to protect the health of our aquatic plants and animals.

3) Supporting hydrology and morphology (physical condition)

Hydrology conditions need to be adequate to support a healthy mix of plants and animals, and are measured by recording river flow, lake level and tidal patterns.

Morphology (or physical condition), which again must be able to support a healthy mix of plants and animals, is assessed by surveying channel, substrate and bed shape and physical conditions.

Classification tools have yet to be developed for a number of biological elements and once available they will be integrated into biological classification system.

Surface Water Chemical Status

There are two classes for the chemical status of surface waters: good or fail. A majority of waters have yet to have chemical status determined. Priority substances are chemical pollutants (including metals, pesticides, hydrocarbons, volatiles and hormone-disrupting compounds) that are of widespread concern across Europe and are monitored to determine the chemical status of our surface waters. The levels or concentrations of these priority substances are compared to European environmental quality standards set to protect the health of our aquatic plants and animals in compliance with the proposed Priority Substances Directive.

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Figure 3.4 shows how the various monitored elements combine to give ecological and chemical status.

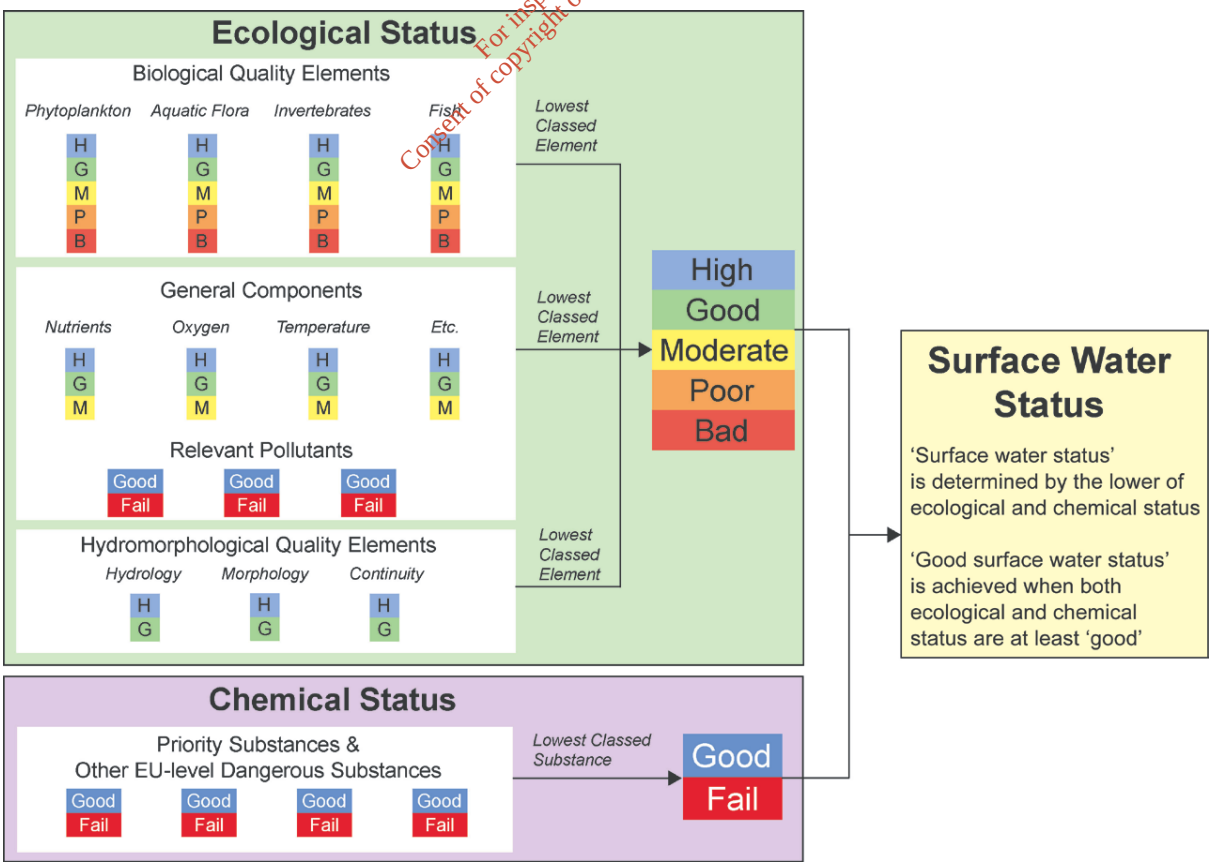


Figure 3.4: Derivation of Status

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Classification of Groundwater Status

Groundwater bodies are classified by the EPA as either good or poor status in accordance with the Draft European Communities Objectives (Groundwater) Regulations, with qualifiers which describe the level of confidence in the assigned status (low or high). As with all classification data it is of interim status as present and may be updated.

Groundwater bodies are classified as either good or poor on the basis of quantitative or chemical status. If either the quantitative or chemical status is poor then the overall status will be poor.

In classifying groundwater bodies, certain tests have been carried out by the EPA against environmental standards or thresholds. Good quantitative status is assigned if abstractions are less than the available resource, other uses are not impacted by the abstraction and there is no saline intrusion. Tests that relate to groundwater quantitative status are:

- Water balances of groundwater bodies;
- Impacts to the natural flow conditions of rivers and streams;
- Impacts to groundwater flow, discharges and levels within the catchment boundaries of groundwater-dependent wetlands; and
- Saline intrusion in coastal settings.

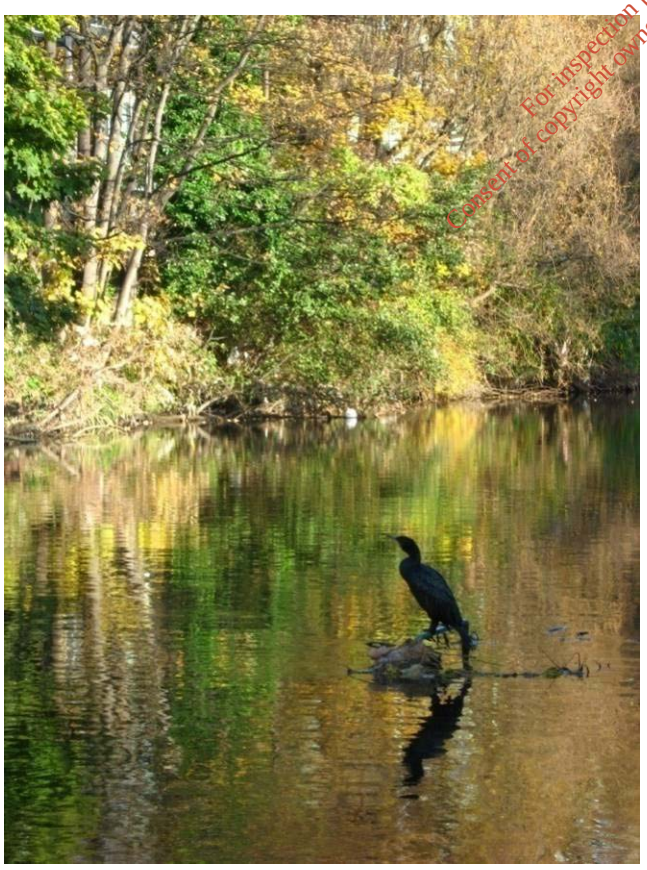
Tests that relate to groundwater quality are similar to those for quantity, and examine:

- General water chemistry of the groundwater body;
- Impacts on water quality in drinking water protected areas;
- Impacts to the water quality of surface water bodies;
- Qualitative impacts to the environmental supporting conditions of groundwater-dependent wetlands; and
- Evidence of saline intrusion in coastal settings.

The thresholds set for quantity are intended to ensure the availability of groundwater resources to both humans and groundwater-dependent ecosystems. The thresholds set for quality relate to drinking water standards, background concentrations and surface water quality standards.

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3.4 Current Water Status



The Directive requires that all waters achieve high or good status by 2015, with extended time or lesser objectives granted under certain circumstances. The Directive Article 4 (4)(a) permits exemptions to this objective on the basis that:

(i) the scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;
(ii) completing the improvements within the timescale would be disproportionately expensive;
(iii) natural conditions do not allow timely improvement in the status of the body of water.

In the Eastern River Basin District our waters have been classified on the basis of the first two years of monitored data and the following is based on Status Version 25 as issued by the EPA.

High Status Waters

There are a number of waters which the EPA considers to be of high status. This represents conditions which may be near pristine, and which typically occur in the upper parts of catchments where human activity and development has been limited. In the East 4% of our rivers are considered to be of high status, whilst 4% of our lakes and reservoirs also achieve this level. Three coastal water bodies are considered to be of high status but none of our transitional waters. Map 3.2 shows the high status river water bodies in the Eastern River Basin District, and Map 3.3 shows the high status lakes and coastal waters.

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Protected areas can have stricter status standards; they must, without exception, achieve standards relevant to their designation which may be stricter, in some aspects, than good or high status. Measures are required for protected sites currently failing to achieve their standards which aim to improve environmental conditions sufficiently to support achieving their objectives. Protected areas are discussed in more detail in Section 5.

In this Plan, special measures are defined to continue to protect these areas and to maintain their high status. These measures have been developed on behalf of the EPA and are fully incorporated; they are listed in Table 7.5.

Current Status of Surface Waters

The current ecological status of rivers, lakes, transitional, and coastal waters can be seen on Maps 3.2 and 3.3. The analysis of status for rivers and lakes is shown in Tables 3.1 and 3.2 and in Figures 3.5 and 3.6.

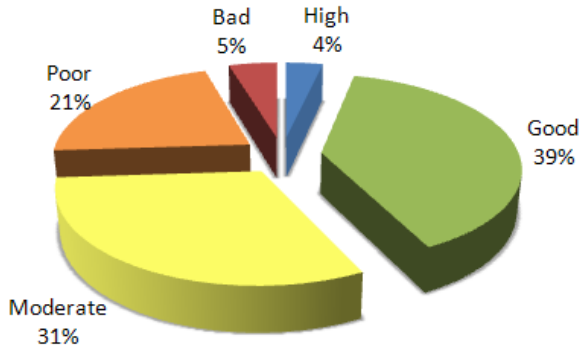


Figure 3.5 Ecological Status of Rivers (by number)

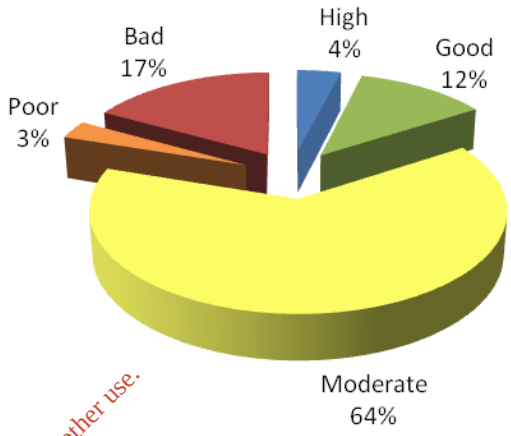


Figure 3.6 Ecological Status of Lakes and Reservoirs (by area)

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These show that 43% (by number) of our rivers and 16% (by area) of our lakes achieve either good or high ecological status. In spite of this good news, there is still much work needed to achieve good status in all waters, especially in our rivers and transitional waters. In general, our artificial water bodies are in good condition and all are considered to be at good ecological potential, except Grand Canal Dock which classified as poor ecological potential. The element(s) causing river and lake water bodies to fail to achieve at least good status are shown in Tables 3.6 and 3.7.

Table 3.3: Surface Water Ecological Status/Potential in the Eastern River Basin District

Surface Water Category	High	Good	Moderate	Poor	Bad	Yet to be Determined
River (number of total) (% of total)	13 4%	143 39%	114 31%	78 21 %	17 5 %	0 0%
Lakes and reservoirs (km^2) (% of total)	1.5 4%	5 12%	26 64%	1 3%	7 17%	0 0%
Transitional (km^2) (% of total)	0 0%	0 0%	24 Moderate 100%			0 0%
Coastal (km^2) (% of total)	207 58%	0 0%	94 Moderate 26%			59 16%
Artificial water bodies (number of total) (% of total)		7 87%		1 13%		0 0%

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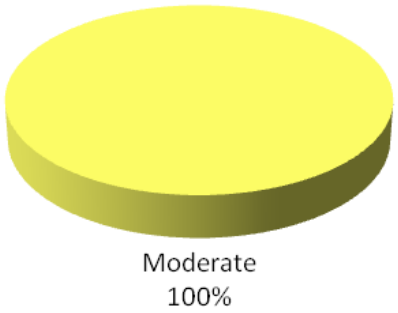


Figure 3.7 Ecological Status of Transitional Water Bodies (by area)

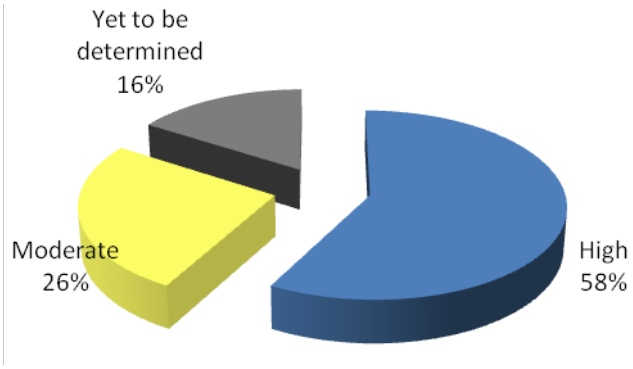


Figure 3.8 Ecological Status of Coastal Water Bodies (by area)

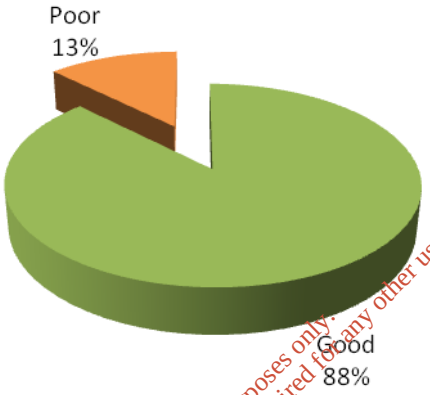


Figure 3.9 Ecological Potential of Artificial Water Bodies (by number)

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Coastal waters are generally in good condition from Drogheda to Malahide and from Dalkey to Brittas Bay. Only Dublin Bay, Malahide Bay and the coastal waters stretching between the two have being classified as moderate; the other waters for which data were available are all classified as of high status. Two coastal classifications are not yet available. None of our estuaries achieve good or high status reflecting the fact that they are largely in urban areas and are downstream of rivers which discharge pollutants and nutrients into them. The element(s) causing transitional, coastal and artificial water bodies to fail to achieve at least good status are shown in Tables 3.8, 3.9 and 3.10.

Table 3.4: Surface Water Chemical Status in the Eastern River Basin District

Surface Water Category	High	Fail	Yet to be Determined
River and canals % of total	0 0%	0 0%	365 100%
Lakes and reservoirs (km^2) % of total	5 12%	0 0%	35 88%
Estuaries (km^2) % of total	0 0%	8 34%	16 66%
Coastal (km^2) % of total	0 0%	48 13%	311 87%

A fully compliant WFD monitoring programme for transitional and coastal waters will be initiated as a matter of priority and made operational at the latest by December 2011. The classification of all transitional and coastal waters will be completed as soon as EPA deems sufficient monitoring data is available.

To complete an interim classification of transitional and coastal waters, a project, led by the Marine Institute and scheduled for completion in September 2010, is underway. The project aims to identify and process existing data in respect of these waters that can be used to assign status for the reference period 2007-2009, where such information is currently unavailable.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

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Current Status of Groundwaters

Groundwater in the ERBD is generally in good condition (see Table 3.5). 90% of the groundwater bodies are classified as good status. Only eight cases were designated as being at poor status, as shown in Map 3.4. One was assigned poor status on the basis of quantitative tests while seven were on the basis of chemical status.

Table 3.5: Groundwater Status in the Eastern River Basin District

Groundwater Category	Good	Poor
Chemical Status (km^2) % of total	5,707 91%	558 9%
Quantitative Status (km^2) % of total	6,180 99%	86 1%
Combined Status (km^2) % of total	5621 90%	644 10%

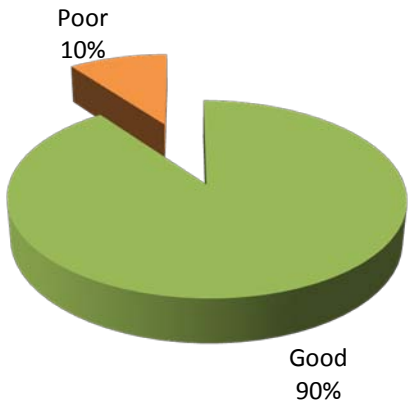


Figure 3.10 Combined Status of Groundwater Bodies (by area)

The poor quantitative status relates to:

- The Lusk Bog of the Ring Aquifer (with abstractions by Fingal County Council).

The water balance test for this aquifer indicates that the recharge available from the Bog of the Ring is 4Megalitres per day. Fingal Count Council is currently abstracting greater than 80% of this value and there are concerns about the impact on the water levels in the aquifer. It is therefore considered by the EPA to be of poor quantitative status, resulting in the entire Bog of the Ring water body being designated poor despite the aquifer being of good chemical status.

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The poor status cases due to groundwater quality are related to groundwater discharges which affect the water quality of streams and rivers in the following areas:

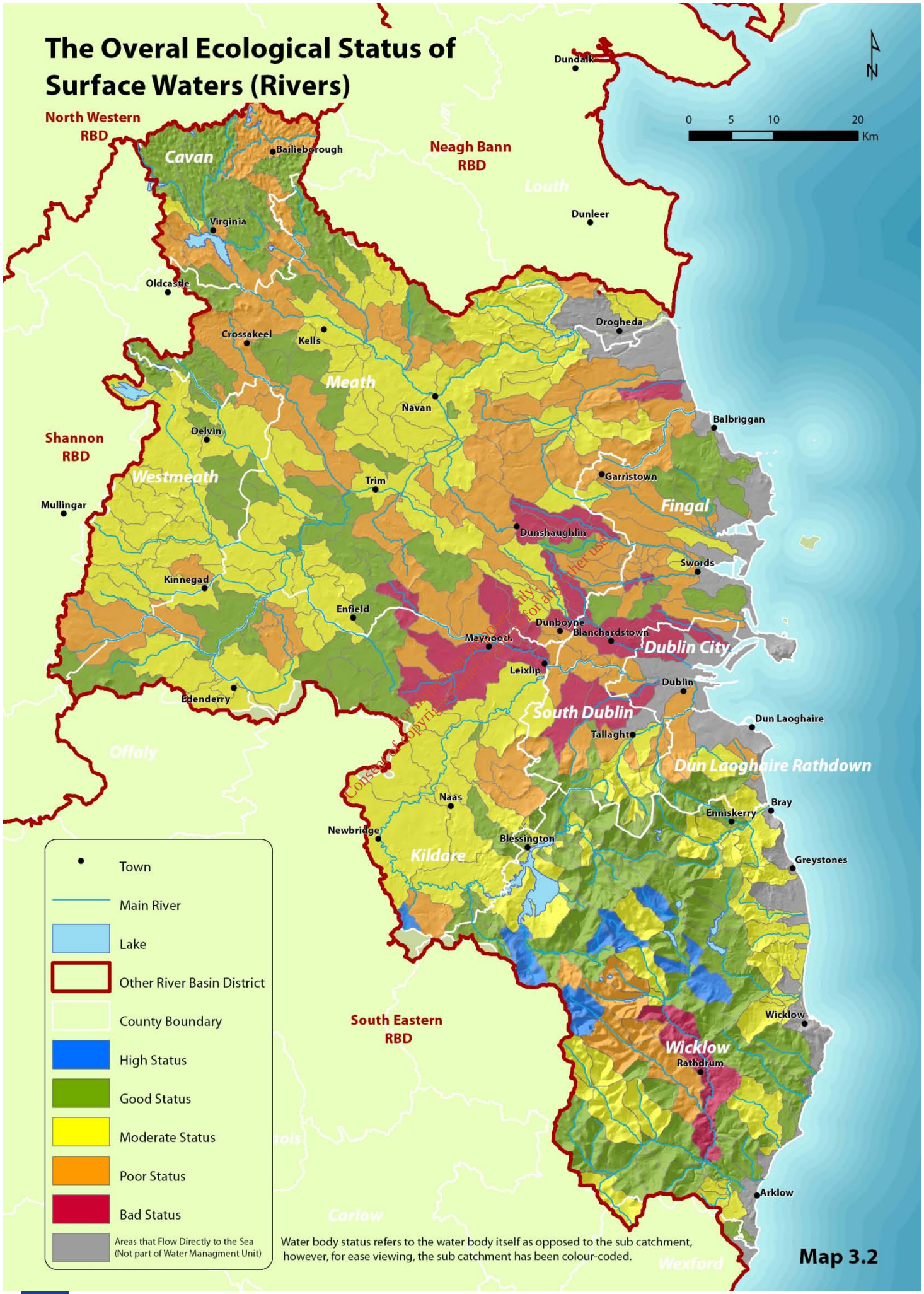
- Wicklow Central (Avoca mine) (Co. Wicklow);
- Lough Lene (Co. Meath and Co. Westmeath);
- Bettystown (Co. Meath);
- Drogheda (Co. Meath and Co. Louth);
- Drogheda_LF (Co. Louth);
- Boyle_CL (Drogheda Town); and
- Drogheda Urban (Co. Meath and Co. Louth).

In the case of Avoca, mine adits on either side of the river are discharging polluted groundwater which contributes to the water quality problems of the river. The Avoca River has been classified as poor status partly on the basis of the mine discharges.

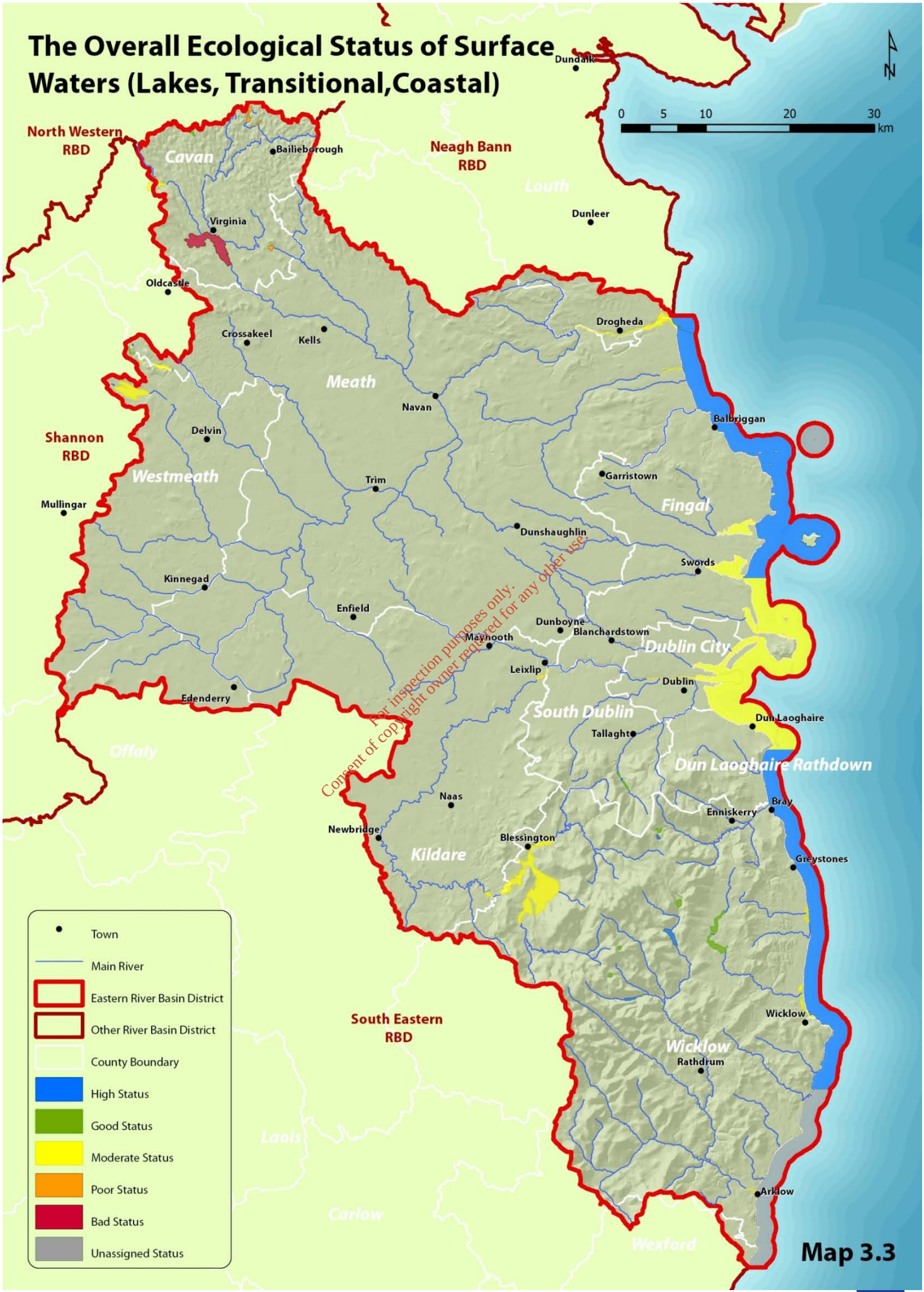


In the other cases, orthophosphate exceed the water quality threshold in a number of streams which flow over the Lough Lene, Bettystown and Drogheda groundwater bodies. These streams have been designated poor status by the EPA. Orthophosphate also exceeds the threshold in groundwater, and groundwater provides significant baseflow to the affected streams. The water quality of the streams is therefore deemed

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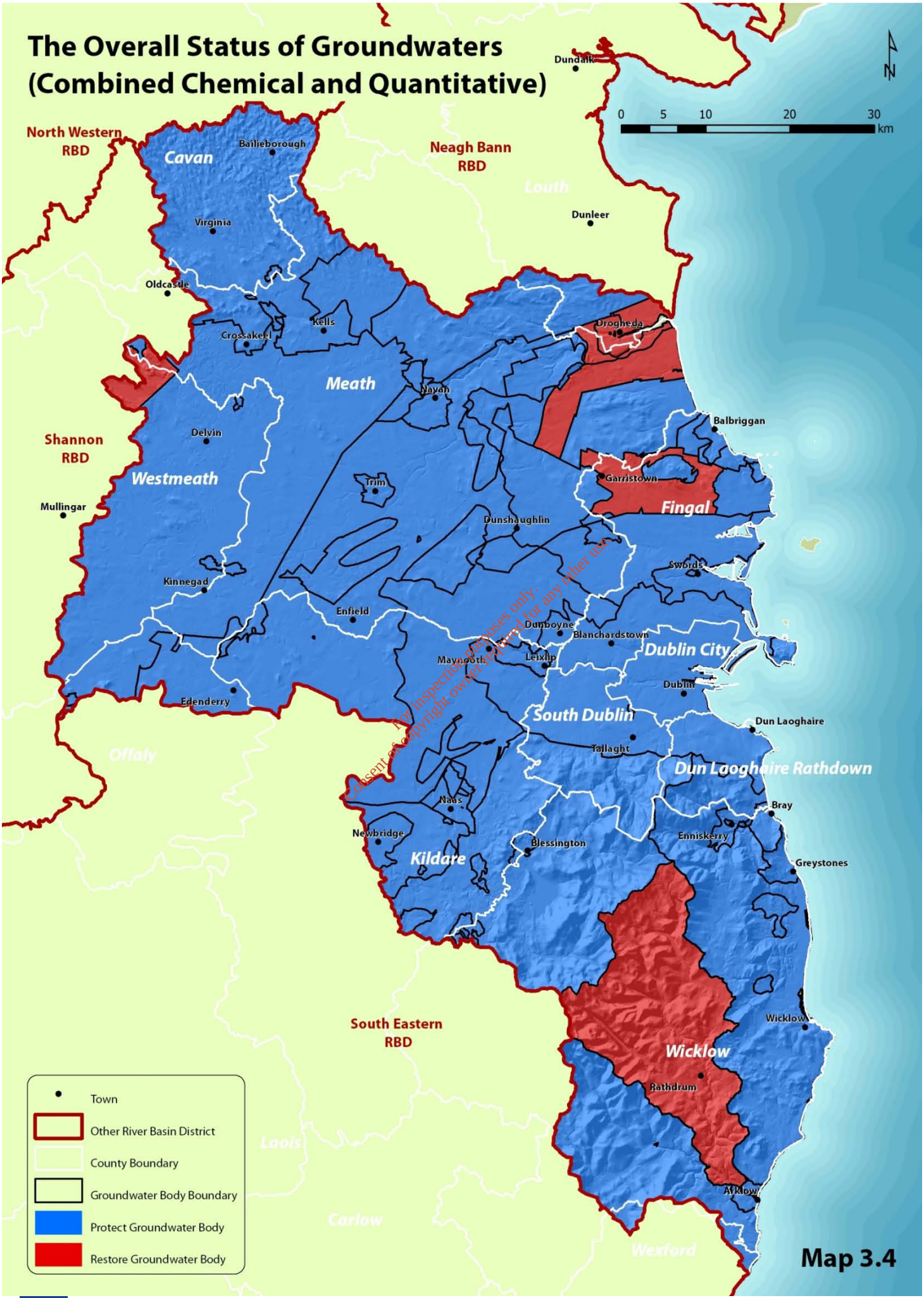


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Table 3.6: Elements causing river water bodies to fail to achieve at least good status

Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Fairyhouse Lower	Meath	Broadmeadow	Poor	Moderate				N	Poor
Dunshaughlin	Meath	Broadmeadow	Bad	Moderate				N	Bad
Nanny Upper	Meath	Nanny	Poor	Moderate				N	Poor
Balcultry	Fingal	Broadmeadow						Y	Poor
Roganstown	Fingal	Broadmeadow						Y	Poor
Lusk Lower	Fingal	LUSK						Y	Poor
Corrstown	Fingal	Broadmeadow						Y	Poor
Gallanstown	Fingal, Meath	Broadmeadow						Y	Poor
Ward	Fingal	Broadmeadow	Poor	Good	Bad			N	Bad
Redcross Lower	Wicklow	Potters		Moderate				N	Moderate
Delgany	Wicklow	Newcastle		Moderate				N	Moderate
Ballycreen	Wicklow	Avoca	Moderate	Good				N	Moderate
Aghavannagh	Wicklow	Avoca						Y	Moderate
Glencree Lower	DLRCC, Wicklow	Dargle	High	Good	Moderate	Good		N	Moderate
Deerpark	Wicklow	Dargle						Y	Moderate
Rathnew Upper	Wicklow	Rathnew						Y	Moderate
Inchavore	Wicklow	Avoca						Y	Moderate
Dargle Lower	DLRCC, Wicklow	Dargle	Moderate	Moderate				N	Moderate
Glenmacross Lower	Wicklow	Avoca		Good	Moderate			N	Moderate
Furnace	Wicklow	Avoca						Y	Poor
Avonbeg Lower	Wicklow	Avoca	Moderate	Good	Poor			N	Poor
Rathnew Lower	Wicklow	Rathnew						Y	Moderate
Ashford	Wicklow	Vartry						Y	Moderate
Newtownmountkennedy	Wicklow	Newcastle	Moderate	Good	Moderate			N	Moderate
Glendasan	Wicklow	Avoca	Good	Good	Poor			N	Poor
Redcross Upper	Wicklow	Potters	Good	Moderate				N	Moderate
Pollahoney	Wicklow	Avoca						Y	Moderate
Ballyduff	Wicklow	Avoca						Y	Moderate
Avoca Upper	Wicklow	Avoca	Bad	Good				N	Bad
Glenealo Lower	Wicklow	Avoca			Moderate			N	Moderate
Ow	Wicklow	Avoca			Moderate			N	Moderate

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Coolalug	Wexford, Wicklow	Avoca	Moderate	Good	Moderate			N	Moderate
Carrighlineen	Wicklow	Avoca						Y	Poor
Ow Upper	Wicklow	Avoca	Moderate	Good	Moderate			N	Moderate
Ow Lower	Wicklow	Avoca	Moderate	Good				N	Moderate
Carrickmines	DLRCC	Shanganagh	Moderate	Good				N	Moderate
Ballinalea	Wicklow	Rathnew						Y	Moderate
Kilmartin Upper	Wicklow	Newcastle						Y	Moderate
Lyreen Upper	Kildare	Ryewater						Y	Poor
Tolka	Meath	Tolka	Moderate	Good				N	Moderate
Rye Water Mid	Kildare,	Ryewater	Moderate	Moderate	Poor			N	Poor
Lyreen Lower	Kildare	Ryewater	Poor	Moderate	Bad			N	Bad
Tolka Upper	Meath	Tolka	Moderate	Moderate				N	Moderate
Rockbrook	South Dublin	Dodder						Y	Moderate
Tallaght	South Dublin	Dodder						Y	Poor
Kilcullen Lower	Kildare	Liffey	Poor	Good	Moderate			N	Poor
Porterstown	Meath	Ryewater			Bad			N	Bad
Gollymochy	Kildare	Liffey						Y	Moderate
Batterstow	Meath	Tolka						Y	Poor
Tolka Lower	Dublin City, Fingal, Meath	Tolka	Bad	Moderate	Poor			N	Bad
Camac Lower	South Dublin, Dublin City	Cammock	Bad	Moderate	Poor			N	Bad
Kill	Kildare	Liffey	Poor	Good	Poor			N	Poor
Naas	Kildare	Liffey						Y	Moderate
Rathmore	Kildare	Liffey	Good	Good	Poor			N	Poor
Westmanstown	Fingal, Meath	Liffey						Y	Poor
Dodder Lower	DLRCC, South Dublin, Dublin City	Dodder	Poor	Moderate	Good		Poor	N	Poor
Firhouse	South Dublin	Dodder						Y	Poor
Dunboyne	Meath	Tolka						Y	Moderate
Mayne	Fingal, Dublin City	Santry Mayne Sluice	Poor	Moderate				N	Poor

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Santry	Dublin City, Fingal	Santry Mayne Sluice	Poor	Moderate	Bad	Good		N	Bad
Pinkeen	Fingal, Meath	Tolka		Moderate	Bad			N	Bad
Broadmeadow 2	Fingal, Meath	Broadmeadow	Poor	Good				N	Poor
Balheary	Fingal	Broadmeadow						Y	Poor
Maaspool	Meath	Broadmeadow						Y	Poor
Coolquoy	Fingal, Meath	Broadmeadow						Y	Poor
Thornton	Fingal, Meath	Broadmeadow						Y	Poor
Ward Lower	Fingal	Broadmeadow	Poor	Moderate				N	Poor
Scatternagh	Meath	Nanny						Y	Moderate
Donabate	Fingal	Donabate		Moderate				N	Moderate
Delvin Lower	Fingal, Meath	Delvin	Poor	Moderate	Poor			N	Poor
Broadmeadow 3	Meath	Broadmeadow	Poor	Moderate				N	Poor
Nanny	Meath	Nanny	Good	Moderate				N	Moderate
Ballough Stream Upper	Fingal	Ballyboghil	Poor	Good				N	Poor
Duleek	Meath	Nanny						Y	Poor
Bellewstown Upper	Meath	Nanny						Y	Poor
Bellewstown Lower	Meath	Nanny						Y	Moderate
Nanny Lower	Meath	Nanny	Poor	Moderate				N	Poor
Hurley Lower	Meath	Nanny	Moderate	Moderate				N	Moderate
Burtonstown	Meath	Nanny						Y	Poor
Camac Upper	South Dublin	Cammock	Poor	Good				N	Poor
Ryewater Lower	Kildare, Meath	Ryewater	Poor	Moderate	Bad		Moderate	N	Bad
Ryewater Upper	Kildare, Meath	Ryewater			Bad			N	Bad
Clonshambo	Kildare	Ryewater	Poor	Good	Bad			N	Bad
Griffeen Lower	South Dublin	Liffey		Good	Bad			N	Bad
Liffey 3	Wicklow	Liffey	Moderate	Good		Good	High	N	Moderate
Wheatfield	Kildare	Liffey						Y	Moderate
Colmanstown	South Dublin	Liffey						Y	Poor
Brittas Upper	South Dublin	Liffey	Moderate	Good				N	Moderate
Kellystown	Kildare, Meath	Ryewater			Bad			N	Bad
Loughlinstown Lower	DLRCC	Shanganagh	Poor	Moderate		Good		N	Poor
Killough	Wicklow	Dargle						Y	Moderate

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Newcastle	Wicklow	Newcastle	Moderate	Good	Good			N	Moderate
Kish	Wexford, Wicklow	Avoca						Y	Moderate
Ballyduff Lower	Wicklow	Avoca	Moderate					N	Moderate
Glenealo Upper	Wicklow	Avoca	Poor	Good				N	Poor
Vartry Lower	Wicklow	Vartry	Moderate	Good	Good			N	Moderate
Kilamrtin Lower	Wicklow	Newcastle						Y	Moderate
Brides	Kildare, Meath	Ryewater						Y	Poor
Morell	Kildare	Liffey	Moderate	Good				N	Moderate
Painestown	Kildare, South Dublin	Liffey			Poor			N	Poor
Morell	Kildare	Liffey	Moderate	Good				N	Moderate
Colliersland	Meath	Tolka						Y	Moderate
Carton	Kildare, Meath	Ryewater			Bad			N	Bad
Gleenreemore	Wicklow	Liffey						Y	Poor
Awillyinish	Kildare	Liffey						Y	Moderate
Dodder 2	South Dublin	Dodder	Moderate	Good	Moderate	Good		N	Moderate
Owenadoher Lower	DLRCC, South Dublin	Dodder	Poor	Good				N	Poor
Saddlestown	Meath	Delvin						Y	Moderate
Hurley Upper	Fingal, Meath	Nanny		Moderate				N	Moderate
Veldonstown	Meath	Nanny						Y	Poor
Delvin Upper	Fingal, Meath	Delvin	Poor	Moderate				N	Poor
Hurley Mid	Meath	Nanny	Poor	Moderate				N	Poor
Cushinstown Lower	Meath	Nanny						Y	Moderate
Saucerstown	Fingal	Broadmeadow						Y	Moderate
Bishopswood	Fingal	Broadmeadow						Y	Poor
DunWater Upper	Fingal, Meath	Broadmeadow						Y	Poor
Kilsallaghan	Fingal	Broadmeadow						Y	Poor
Mooretown	Fingal	Broadmeadow						Y	Moderate
DunWater Lower	Fingal, Meath	Broadmeadow						Y	Poor
Ward Upper	Fingal, Meath	Broadmeadow	Poor	Moderate				N	Poor
Broadmeadow Upper	Meath	Broadmeadow	Poor	Moderate	Bad			N	Bad
Ballyboghil	Fingal	Ballyboghil	Poor	Moderate				N	Poor
Cushinstown Upper	Fingal, Meath	Nanny						Y	Poor

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Mosney	Meath	Mosney	Poor	Moderate	Bad			N	Bad
Rathdrinagh Lower	Meath	Boyne Lower						Y	Moderate
Bective	Meath	Boyne Lower						Y	Poor
Iskaroon Upper	Meath	Boyne Lower						Y	Moderate
Rathcore	Meath	Blackwater South						Y	Moderate
Cloghan Upper	Westmeath	Deel						Y	Moderate
Boyne	Kildare, Meath	Boyne Upper	Moderate	Good				N	Moderate
Clady Mid	Meath	Boyne Lower		Moderate				N	Moderate
Yellow Lower	Meath	Blackwater North	Poor	Good				N	Poor
Lamberstown	Meath	Boyne Lower						Y	Poor
Boycetown	Meath	Boyne Lower	Moderate	Good				N	Moderate
Stonyford	Meath, Westmeath	Stonyford	Moderate	Good				N	Moderate
Athboy Upper	Meath, Westmeath	Athboy	Poor	Good				N	Poor
Lough Lene Adeel Stream	Westmeath	Deel						Y	Moderate
Deel Upper	Meath, Westmeath	Deel	Moderate					N	Moderate
Kinnegad Lower	Meath, Westmeath	Boyne Upper	Moderate	Good				N	Moderate
Kinnegad Upper	Westmeath	Boyne Upper						Y	Moderate
Yellow Lower	Meath, Offaly	Boyne Upper	Moderate	Good				N	Moderate
Clady Lower	Meath	Boyne Lower		Moderate				N	Moderate
Abelstown	Meath	Boyne Lower						Y	Moderate
Glash Lower	Kildare	Boyne Upper	Poor	Good				N	Poor
Baltray	Louth	Baltray						Y	Moderate
Newtownstalaban	Louth	Baltray						Y	Moderate
Mountwilson	Offaly	Boyne Upper						Y	Moderate
Ballyhaw	Westmeath	Deel						Y	Moderate
Nugentstown Lower	Meath	Blackwater North						Y	Moderate
Edenderry	Kildare, Offaly	Boyne Upper						Y	Moderate
Rathdrinagh Upper	Meath	Boyne Lower						Y	Moderate
Dardistown Upper	Westmeath	Deel						Y	Moderate
Glash Mid	Kildare	Boyne Upper						Y	Poor
Monasterboice	Louth	Mattock						Y	Poor
Stackallan	Meath	Boyne Lower						Y	Poor

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Clonmore	Meath	Athboy						Y	Moderate
Boyne Upper	Kildare, Offaly	Boyne Upper	Moderate	Moderate				N	Moderate
Eighter	Cavan, Meath	Blackwater North						Y	Poor
Milltownpass	Westmeath	Boyne Upper	Moderate	Good				N	Moderate
Proudfootstown	Meath	Mattock						Y	Moderate
Mattock Lower	Louth, Meath	Mattock	Good	Moderate				N	Moderate
Skane Upper	Meath	Boyne Lower	Poor	Moderate				N	Poor
Deel Lower	Meath, Westmeath	Deel	Moderate	Good				N	Moderate
Blackwater Lower	Kildare, Meath	Blackwater South	Moderate	Good				N	Moderate
Aleckafin	Kildare	Blackwater South						Y	Moderate
Devlins	Meath	Mattock	Moderate	Moderate				N	Moderate
Mooretown	Meath	Mattock						Y	Moderate
Clady Upper	Meath	Boyne Lower						Y	Moderate
Mattock Mid	Louth, Meath	Mattock	Moderate	Moderate				N	Moderate
Cloghan Lower	Westmeath	Deel						Y	Moderate
Moynalty Lower	Cavan, Meath	Blackwater North	Poor	Moderate				N	Poor
Kilwarden	Westmeath	Boyne Upper						Y	Poor
Mattock Upper	Louth, Meath	Mattock	Moderate	Moderate				N	Moderate
Drakestown Lower	Meath	Blackwater North						Y	Moderate
Grange	Meath	Boyne Lower						Y	Moderate
Garrisker	Kildare	Boyne Upper						Y	Poor
Blackwater Upper	Cavan	Blackwater North	Poor	Moderate				N	Poor
Castlejordan	Meath, Offaly, Westmeath	Boyne Upper	Poor	Moderate				N	Poor
Nadreegeel Lough	Cavan	Blackwater North	Moderate	Good				N	Moderate
D'arcys Crossroads Stream	Meath, Westmeath	Stonyford	Poor	Good				N	Poor
Horath Lower	Meath	Blackwater North						Y	Moderate
Cortown Lower	Meath	Blackwater North						Y	Moderate
Knightsbrook	Meath	Boyne Lower						Y	Poor
Ballivor	Meath, Westmeath	Boyne Lower						Y	Moderate
Coppanagh	Cavan	Blackwater North						Y	Moderate
Gibstown	Meath	Blackwater North						Y	Poor
Glash Upper	Kildare	Boyne Upper	Poor	Moderate				N	Poor

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Name	Local Authority	Water Management Unit**	Macroinvertebrates Status	General Physical Chemical Status	Fish Status	Morphology Status	Plants - Diatoms Status	Extrapolated	Interim Overall Status
Derreenavagh Stream	Westmeath	Deel	Moderate	Good				N	Moderate
Dardistown Lower	Westmeath	Deel						Y	Moderate
Riverstown	Westmeath	Deel	Moderate	Good				N	Moderate
Knightsbrook Lower	Meath	Boyne Lower	Poor	Moderate				N	Poor
Hurdlestown	Meath	Blackwater North						Y	Moderate
Skane Lower	Meath	Boyne Lower	Moderate	Moderate				N	Moderate
Athboy Lower	Meath, Westmeath	Athboy	Poor	Moderate				N	Poor
Deel	Westmeath	Deel	Moderate					N	Moderate
Drakestown Upper	Meath	Blackwater North						Y	Moderate
Derrycoris	Kildare, Offaly	Boyne Upper						Y	Moderate
Philpotstown	Meath	Boyne Lower						Y	Poor
EA_Boyne159BlackwaterKells_Blackwater1_Lower_1	Cavan, Meath	Blackwater North	Poor	Good				N	Poor
EA_Boyne159BlackwaterKells_Blackwater1_Lower_2	Meath	Blackwater North	Moderate	Moderate				N	Moderate
EA_Boyne159BlackwaterKells_Blackwater1_Lower_3	Meath	Blackwater North	Good	Moderate				N	Moderate
EA_Boyne159Main_Boyne1_Lower_2	Meath	Boyne Lower	Moderate	Good				N	Moderate
EA_Boyne159Main_Boyne1_Lower_3	Meath	Boyne Lower	Moderate	Good	Moderate			N	Moderate
EA_Liffey168_Liffey1_Lower_1	Wicklow, Kildare	Liffey	Moderate	Good				N	Moderate
EA_Liffey168_Liffey1_Lower_2	Kildare	Liffey	Good	Good	Moderate	Good	Good	N	Moderate
EA_Liffey168_Liffey1_Lower_3	Kildare	Liffey	Moderate	Moderate		Good		N	Moderate
EA_Liffey168_Liffey1_Lower_4	Kildare, South Dublin	Liffey	Moderate	Moderate		Good		N	Moderate
EA_Liffey168_Liffey1_Lower_5	Kildare,Meath,Fingal,South Dublin	Liffey	Poor	Moderate		Good	Moderate	N	Poor
EA_Liffey168_Liffey1_Lower_6	DCC, Fingal, South Dublin	Liffey	Poor	Moderate				N	Poor

**Water management units are a combination of several water bodies which are interconnected and have similar attributes

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Table 3.7: Elements causing lakes water bodies to fail to achieve at least good status

Name	Local Authority	Biological Status		General Physical Chemical Status		Morphology Status		Monitored/ Desktop status	Interim Overall Status
		Status	Reason	Status	Reason	Status	Reason		
Bane (Lough)	Meath, Westmeath	Good	Fish	Good		Good		Monitored	Moderate
Ben Lough	Westmeath							Desktop status	Moderate
Drumkeery Lough	Cavan	Poor	Macrophytes	Moderate	Nutrients - Total Phosphorus	High		Monitored	Poor
Golden Falls	Kildare	Moderate	Chlorophyll	Moderate	Nutrients - Total Phosphorus			Monitored	Moderate
Leixlip Reservoir	Kildare, South Dublin							Desktop status	Moderate
Lene	Westmeath	Good	Fish	Good		Good		Monitored	Moderate
Mullagh	Cavan	Poor	Chlorophyll	Moderate	Nutrients - Total Phosphorus			Monitored	Poor
Nadreegeal Loughs	Cavan	Moderate	Macrophytes, Chlorophyll	Moderate	Nutrients - Total Phosphorus			Monitored	Moderate
Pollaphuca Reservoir	Kildare	Moderate	Macrophytes	Good				Monitored	Moderate
Ramor (Lough)	Cavan	Bad	Macrophytes, Chlorophyll	Moderate	Nutrients - Total Phosphorus			Monitored	Bad
Skeagh Lough Upper	Cavan	Poor	Macrophytes, Chlorophyll	Moderate	Nutrients - Total Phosphorus	High		Monitored	Poor

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Table 3.8: Elements causing transitional water bodies to fail to achieve at least good status

Name	Local Authority	Ecology		Chemical		Protected Area		Extrapolated	Interim Overall Status
		Status	Reason	Status	Reason	Status	Reason		
Avoca Estuary	Wicklow	Moderate	DO	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate
Boyne Estuary	Louth, Meath	Moderate	Opportunistic macroalgae	Fail	Priority substances	Less than good	Unfavourable Conservation Status	No	Moderate
Broad Lough	Wicklow	Moderate	DO,BOD	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate
Broadmeadow Water	Fingal	Moderate	MRP, DO, BOD, Phytoplankton Biomass	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate
Dargle Estuary	Wicklow							Yes	Moderate
Kilcoole Marsh	Wicklow							Yes	Moderate
Liffey Estuary Lower	Dublin City	Good	MRP	Fail	Priority substances	Less than good	Failing to meet sensitive water (UWWTD) objectives	No	Moderate
Liffey Estuary Upper	Dublin City	Moderate	MRP, DO, Fish	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate
Mayne Estuary	Fingal							Yes	Moderate
Nanny Estuary	Meath							Yes	Moderate
North Bull Island	Dublin City, Fingal							Yes	Moderate
Rogerstown Estuary	Fingal	Moderate	MRP	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate
Tolka Estuary	Dublin City	Moderate	MRP, Opportunistic Macroalgae, Fish	No Data	No Data	Less than good	Unfavourable Conservation Status	No	Moderate

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Table 3.9: Elements causing coastal water bodies to fail to achieve at least good status

Name	Local Authority	Ecology		Chemical		Protected Area		Extrapolated	Interim Overall Status
		Status	Reason	Status	Reason	Status	Reason		
Dublin Bay	Dublin, DLRCC, Fingal	Moderate	Dissolved Inorganic Nitrogen	Fail	Priority substances	Less than good	Unfavourable Conservation Status	No	Moderate
Irish Sea Dublin (HA 09)	DLRCC, Fingal							Yes	Moderate
Malahide Bay	Fingal	Moderate	Dissolved Inorganic Nitrogen	No Data	No Data	Less than good	Failing to meet bathing water objectives; unfavourable conservation status	No	Moderate
Rockabill	Fingal							Yes	Unassigned
Southwestern Irish Sea - Brittas Bay (HA 10)	Wexford, Wicklow							Yes	Unassigned

Table 3.10: Elements causing groundwater bodies to fail to achieve at least good status

Name	Local Authority	Overall Quantitative Status		Overall Chemical Status		Interim Overall Status
		Status	Reason	Status	Reason	
Bettystown	Meath	Good		Poor	River MRP	Poor
Boyle_CL	Louth	Good		Poor	River MRP	Poor
Drogheda	Meath, Louth	Good		Poor	River MRP	Poor
Drogheda Urban	Meath, Louth	Good		Poor	River MRP	Poor
Drogheda_LF	Louth	Good		Poor	River MRP	Poor
Lough Lene	Meath, Westmeath	Good		Poor	River MRP	Poor
Lusk-Bog of the Ring	Fingal, Meath	Poor	Water Balance	Good		Poor
Wicklow Central (Avoca Mine)	Wicklow	Good		Poor	Mine	Poor

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Table 3.11: Elements causing artificial water bodies to fail to achieve at least good status

Name	Local Authority	Description	Interim Overall Status
Boyne Navigation	Meath	Canal	Good
Grand Canal Dock	Dublin City Council	Canal	Poor
Grand Canal Main Line E of Lowton	Kildare, Dublin City, South Dublin, Kildare	Canal	Good
Grand Canal Main Line W of Lowton	Offaly, Kildare	Canal	Good
Grand Canal Edenderry Branch	Offaly	Canal	Good
Grand Canal Naas & Corbally Branch	Kildare	Canal	Good
Royal Canal Main Line	Meath, Kildare, Westmeath, Dublin City, Fingal	Canal	Good
Turlough Hill Reservoir	Wicklow	Reservoir	Good

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4 What are the Problems?

In many waters there are several different pressures, which detrimentally affect the quality of the water and the diversity of the ecology. Therefore, the measures (or actions) necessary to improve the situation have to address all of these pressures. This catchment-based process is an important advance in water management as it overrides the historical approach of single issues dominating the process. Rather than the various individuals and organisations who contribute to the problems pointing the blame elsewhere, this approach highlights all issues and encourages cooperation between all stakeholders in the catchment.

The Water Matters report published in 2007 provided an analysis of the main pressures affecting our waters. Eight major pressures with a widespread impact were identified, in addition to specific local problems that exist from place to place (Table 4.1).

These main water problems are discussed in detail in the Water Matters booklet, outlining for each problem:

- Why they are problems;
- How these problems affect the Eastern River Basin District in particular;
- What existing controls are in place;
- Whether these controls are adequate to meet the Directive targets; and
- What additional actions are proposed.

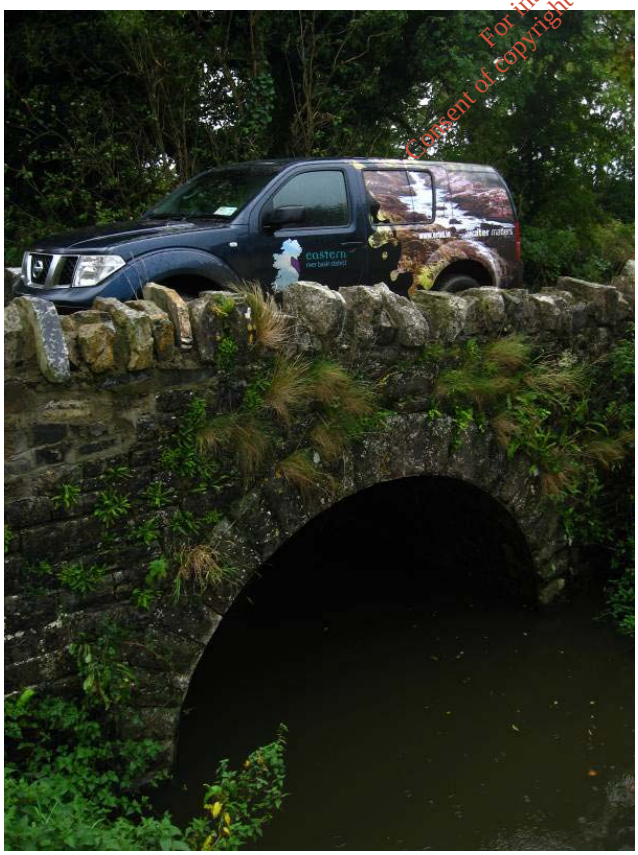
Comments received on the Water Matters report are summarised in Appendix A(ii).

Table 4.1: Main Pressures and Pressure Category

Pressure	Pressure Category
Wastewater and industrial discharges	Physicochemical
Landfills, quarries, mines and contaminated lands	Physicochemical
Agriculture	Physicochemical
Wastewater and unsewered properties	Physicochemical
Forestry	Physicochemical
Usage and discharge of dangerous substances	Physicochemical
Physical modifications	Morphological
Abstractions	Hydrological

The activities listed above all cause pressures on surface and ground waters, to different degrees from place to place and in different combinations. These pressures affect the water quality, the habitats and the ecology which the waters sustain.

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The impacts can be direct, such as physical changes to the water body or over abstraction, which can impact on natural habitats; or indirect, such as increased sediment run off which reduces light and causes oxygen deficiencies. In order to improve conditions and achieve good status, all of the pressures will have to be addressed to a degree where no single pressure, or any combination of pressures, remains a problem.

The Water Matters Report 2007 was the starting point for identifying the problems in our waters. Since 2007 the Local Authorities and the Eastern River Basin District Project Team have looked at our waters on a sub catchment level using the River Basin Management System (as discussed in Section 8).

The River Basin Management System (RBMS) allows users to look at all the information that has been collected to date from the Characterisation Report, the Monitoring Sites, Water Matters background report 2007 and the EPA classifications (see Sections 1 to 3 for more information on these reports). Using all this information, and local information and knowledge, it is possible to compare monitoring results to local upstream conditions and begin to identify the unique set of pressures causing the problems in a particular sub catchment.

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The following sequence of maps (Maps 4.1 to 4.6) shows the relative degree to which the six pressures within the physicochemical (water quality) pressure category affect the principal water bodies in the Eastern River Basin District as identified by users of the RBMS. In these maps each pressure is assigned a level of importance (in terms of a percentage) for each river. The six physicochemical pressures (identified in the Water Matters report as key pressures nationally) are:

- wastewater point sources;
- landfills, quarries and mines;
- agriculture;
- unsewered properties;
- forestry; and
- dangerous substances.



It should be noted that, in line with the requirements of the Directive, if part of a particular river has been identified as being affected by a given pressure, then is taken to apply to the entire river.

Water bodies are classified as being either at risk or not at risk on the basis of morphological pressures and hydrological pressures. These maps were compiled from the results of research projects commissioned by the DEHLG. The Abstractions map (Map 4.7) shows the rivers found to be at risk or probably at risk from over abstractions. The Morphology map (Map 4.8) shows the rivers at risk or probably at risk from canalisation in addition to all designated heavily modified water bodies (discussed in Section 10).

For more information on the research projects please visit our website or www.wfdireland.ie; a full list of documents is presented in the bibliography at the end of this plan.

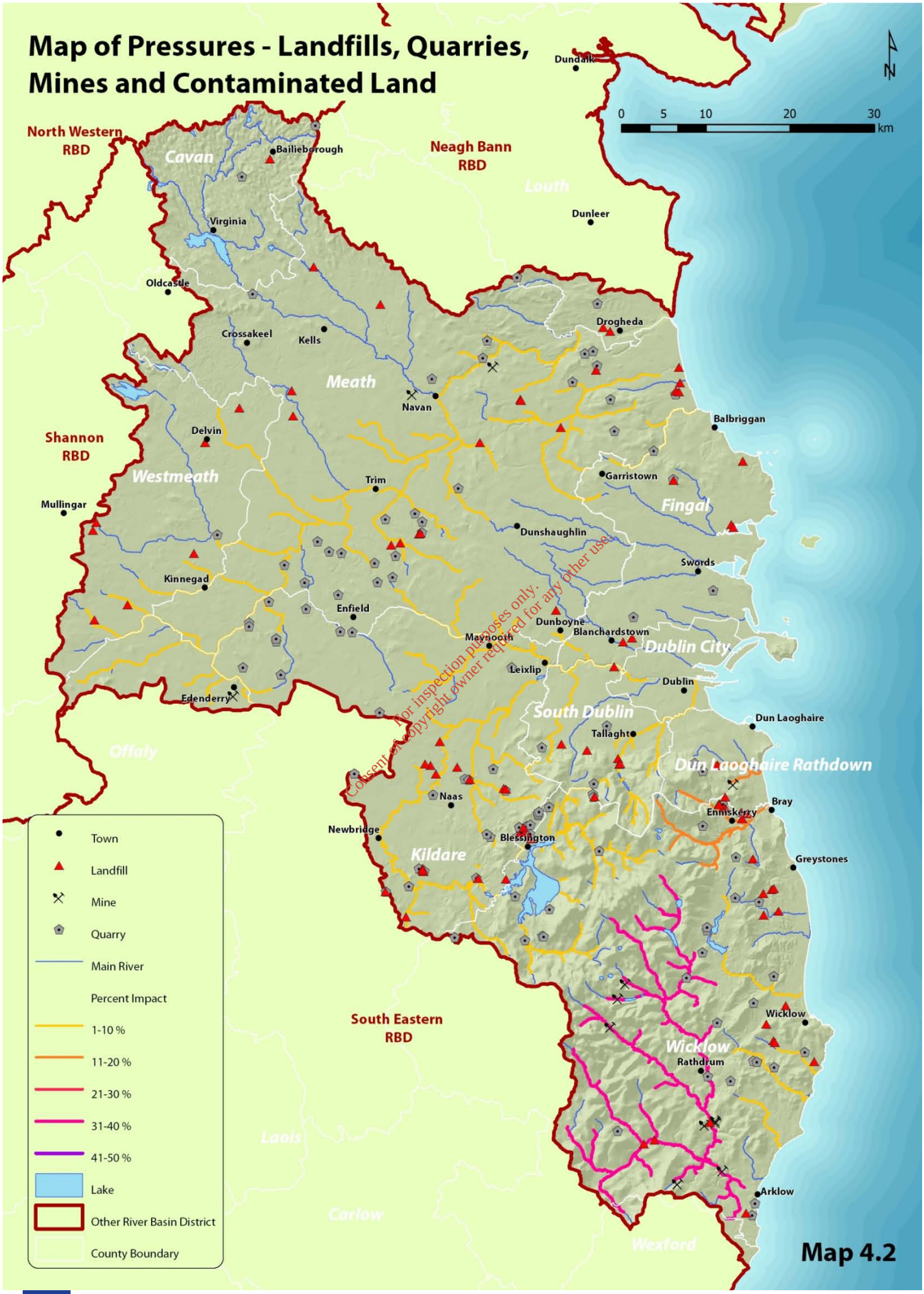
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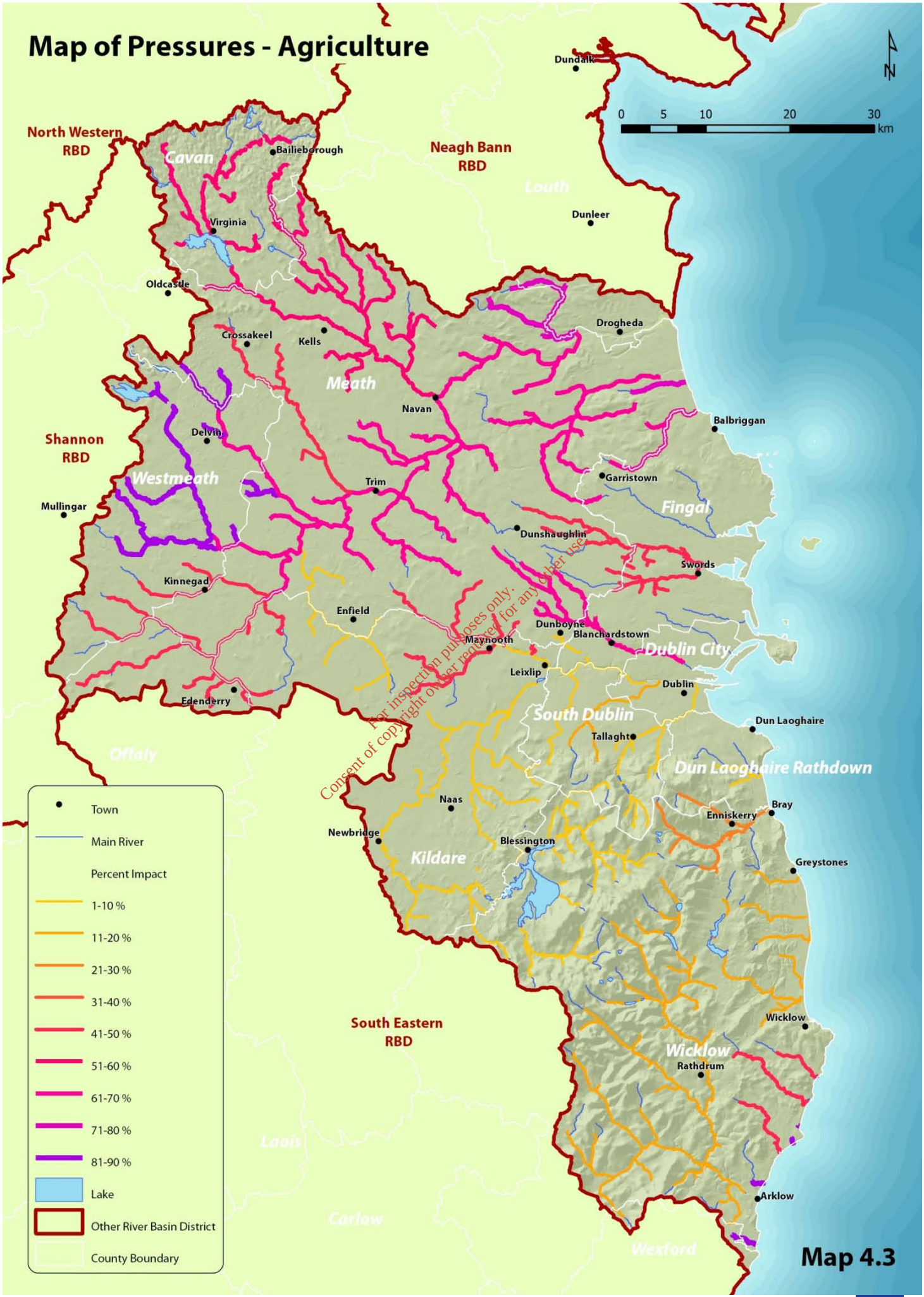
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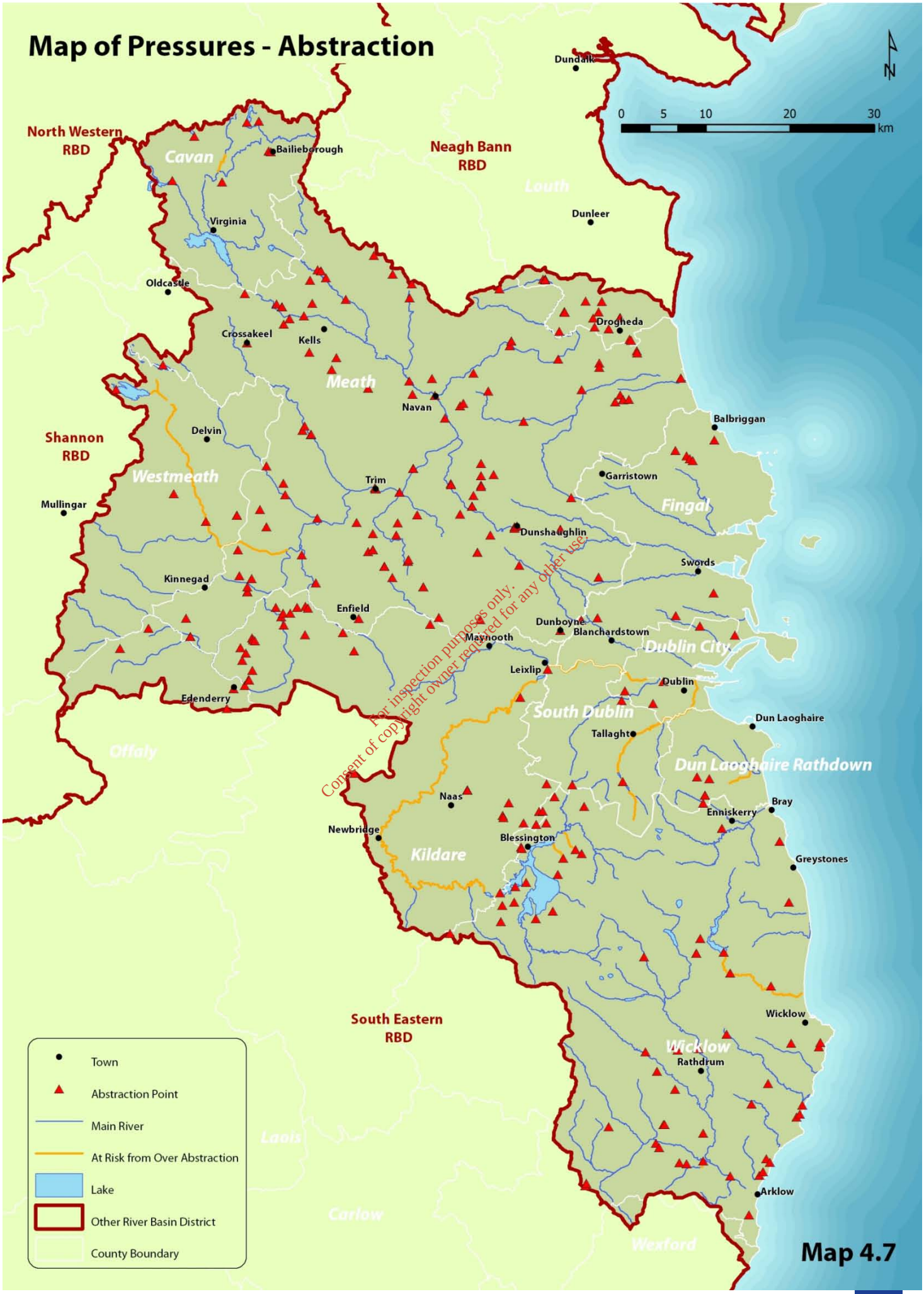
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5 Protected Areas in the Eastern River Basin District

Within the Eastern River Basin District, there are a number of areas that have a special status for environmental reasons. Many of these areas are designated at European level (for example Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive, Shellfish Waters, Bathing Waters). There are also nationally designated areas such as the Natural Heritage Areas. These protected areas come under the responsibility of the National Parks and Wildlife Service.

The protected areas in the Eastern River Basin District are shown in Maps 5.1 and 5.2 and listed in Tables 5.1 – 5.8:

- 16 Special Protection Areas (SPAs);
- 33 candidate Special Areas of Conservation (cSACs);
- 99 Natural Heritage Areas (NHAs) (9 designated as NHAs and 90 Proposed NHAs);
- 4 Nutrient sensitive waters;
- 3 Salmonid rivers;
- 2 Shellfish areas.
- 21 Bathing waters; and
- 104 Protected drinking water areas.

These protected areas are granted special status and their protection is mandatory under European and/or Irish law; the legislation to protect them forms an integral part of this River Basin Management Plan. The EPA maintains a Register of Protected Areas and this register can be accessed at www.wfdireland.ie. It is the aim of NPWS to draw up conservation management plans for all areas designated for nature conservation, and these plans and their objectives run in parallel with the objectives of the Water Framework Directive. The National Biological Record Centre is also currently preparing species distribution maps. In considering the protected status the precise reason for the protected designation should be checked when assessing impacts.

The Eastern River Basin District is the only district in Ireland without any designated waters for *Margaritifera margaritifera* (freshwater pearl mussel) in Ireland. Fresh water pearl mussel will be protected by new regulations defining surface water objectives, which will require measures to be implemented with the aim of ensuring that these designated areas achieve favorable conservation status.

Further information on protected areas in the Eastern River Basin District is available from the website www.erbd.ie in the form of PowerPoint presentations for each local area or through the River Basin Management System.

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Table 5.1: Special Protection Areas (SPAs); Water Dependent Habitats and Species

Name	Conservation Status	Overall Protected Areas Status
Baldoyle Bay	Unassigned	Unassigned
Boyne Estuary	High	At least good
Broad Lough	Moderate	Less than good
Broadmeadow/Swords Estuary	Moderate	Less than good
Howth Head Coast	Moderate	Less than good
Ireland's Eye	Moderate	Less than good
Kilcoole Marshes	Unassigned	Unassigned
Lambay Island	Moderate	Less than good
North Bull Island	Good	Less than good
Pollaphuca Reservoir	Unassigned	Unassigned
Rockabill	Unassigned	Unassigned
Rogerstown	Moderate	Less than good
Sandymount Strand/Tolka Estuary	Moderate	Less than good
Skerries Islands	Unassigned	Unassigned
Wicklow Head	Unassigned	Unassigned
Wicklow Mountains	Unassigned	Unassigned

Note: The conservation status of these protected areas was provided through consultation with NPWS. In some cases, if the 'ecological' and 'chemical' status could not be assessed due to lack of data, a water body was given an 'unassigned' status, even where the conservation status was considered to be favourable. Water bodies containing areas designated for the protection of habitats and species (under the Habitats Directive and the Birds Directive) were considered to be at less than good status, if the status of a water within a water body was insufficient to allow the achievement of the conservation objectives.

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Table 5.2: Special Areas of Conservation (SACs); Water Dependant Habitats

Note: all SACs are of "candidate" status

Name	Conservation Status	Overall Protected Areas Status
Killyconny Bog (Cloghbally)	Unassigned	Unassigned
Baldoyle Bay	Unassigned	Unassigned
Howth Head	Unassigned	Unassigned
Lambay Island	Unassigned	Unassigned
Malahide Estuary	Moderate	Less than good
North Dublin Bay	Moderate	Less than good
Rogerstown Estuary	Moderate	Less than good
South Dublin Bay	Moderate	Less than good
Red Bog	Unassigned	Unassigned
Raheenmore Bog	Unassigned	Unassigned
Ballyman Glen	Unassigned	Unassigned
Bray Head	Unassigned	Unassigned
Carriggower Bog	Unassigned	Unassigned
Deputy's Pass Nature Reserve	Unassigned	Unassigned
Glen of the Downs	Unassigned	Unassigned
Knocksink Wood	Unassigned	Unassigned
Buckroney-Brittas Dunes and Fen	Unassigned	Unassigned
Vale of Clara (Rathdrum Wood)	Unassigned	Unassigned
Glenasmole Valley	Unassigned	Unassigned
Rye Water Valley / Carton	Unassigned	Unassigned
Kilpatrick Sandhills	Unassigned	Unassigned
Magherabeg Dunes	High	At least good
White Lough, Ben Lough and Lough Doo	Unassigned	Unassigned
Boyne Coast and Estuary	Unassigned	Unassigned
Lough Bane and Lough Glass	Unassigned	Unassigned
Lough Lene	Unassigned	Unassigned
Wicklow Mountains	Unassigned	Unassigned
Ireland's Eye	Unassigned	Unassigned
The Murrough Wetlands	High	At least good
Wicklow Reef	High	At least good
River Boyne and River Blackwater	Unassigned	Unassigned
Mouds Bog	Unassigned	Unassigned
Mount Hevey Bog	Unassigned	Unassigned

Note: The conservation status of these protected areas was provided through consultation with NPWS. In some cases, if the 'ecological' and 'chemical' status could not be assessed due to lack of data, a water body was given an 'unassigned' status, even where the conservation status was considered to be favourable. Water bodies containing areas designated for the protection of habitats and species (under the Habitats Directive and the Birds Directive) were considered to be at less than good status, if the status of a water within a water body was insufficient to allow the achievement of the conservation objectives.

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Table 5.3: Natural Heritage Areas (NHAs)

Name	Type	Conservation Status	Name	Type	Conservation Status
Arklow Rock-Askintinny	pNHA	Proposed	King William's Glen	pNHA	Proposed
Arklow Sand Dunes	pNHA	Proposed	Knock Lake	pNHA	Proposed
Arklow Town Marsh	pNHA	Proposed	Knocksink Wood	pNHA	Proposed
Avoca River Valley	pNHA	Proposed	Lambay Island	pNHA	Proposed
Avondale	pNHA	Proposed	Laytown Dunes/Nanny Estuary	pNHA	Proposed
Baldoyle Bay	pNHA	Proposed	Liffey At Osberstown	pNHA	Proposed
Ballina Bog	pNHA	Proposed	Liffey Bank Above Athgarvan	pNHA	Proposed
Ballinacor Wood	pNHA	Proposed	Liffey Valley	pNHA	Proposed
Ballinagee Wood	pNHA	Proposed	Liffey Valley Meander Belt	pNHA	Proposed
Ballybetagh Bog	pNHA	Proposed	Lough Ramor	pNHA	Proposed
Ballyman Glen	pNHA	Proposed	Lough Shesk	pNHA	Proposed
Ballynabarny Fen	pNHA	Proposed	Loughlinstown Woods	pNHA	Proposed
Balrath Woods	pNHA	Proposed	Loughshinny Coast	pNHA	Proposed
Black Castle Bog NHA	NHA		Lugmore Glen	pNHA	Proposed
Bog Of The Ring	pNHA	Proposed	Magherabeg Dunes	pNHA	Proposed
Booterstown Marsh	pNHA	Proposed	Malahide Estuary	pNHA	Proposed
Boyne Coast And Estuary	pNHA	Proposed	Milltownpass Bog NHA	NHA	
Boyne River Islands	pNHA	Proposed	Molerick Bog NHA	NHA	
Boyne Woods	pNHA	Proposed	Mouds Bog	pNHA	Proposed
Bray Head	pNHA	Proposed	Mount Hevey Bog	pNHA	Proposed
Buckroney-Brittas Dunes And Fen	pNHA	Proposed	Newtown Marshes	pNHA	Proposed
Carbury Bog NHA	NHA		North Dublin Bay	pNHA	Proposed
Carriggower Bog	pNHA	Proposed	Portraine Shore	pNHA	Proposed
Crewbane Marsh	pNHA	Proposed	Poulaphouca Reservoir	pNHA	Proposed
Cromwell's Bush Fen	pNHA	Proposed	Powerscourt Waterfall	pNHA	Proposed
Dalkey Coastal Zone And Killiney Hill	pNHA	Proposed	Powerscourt Woodland	pNHA	Proposed
Dargle River Valley	pNHA	Proposed	Raheenmore Bog	pNHA	Proposed
Devil's Glen	pNHA	Proposed	Rathmoylan Esker	pNHA	Proposed
Dingle Glen	pNHA	Proposed	Red Bog	pNHA	Proposed
Dodder Valley	pNHA	Proposed	Rockabill Island	pNHA	Proposed
Donadea Wood	pNHA	Proposed	Rogerstown Estuary	pNHA	Proposed
Dowth Wetland	pNHA	Proposed	Rossnaree Riverbank	pNHA	Proposed
Duleek Commons	pNHA	Proposed	Royal Canal	pNHA	Proposed
Feltrim Hill	pNHA	Proposed	Rye Water Valley/Carton	pNHA	Proposed
Fitzsimon's Wood	pNHA	Proposed	Santry Demesne	pNHA	Proposed
Girley Bog NHA	NHA		Skerries Islands NHA	NHA	
Glen Of The Downs	pNHA	Proposed	Slade Of Saggart And Crooksling Glen	pNHA	Proposed
Glenasmole Valley	pNHA	Proposed	Slane Riverbank	pNHA	Proposed
Glencree Valley	pNHA	Proposed	Sluice River Marsh	pNHA	Proposed
Glenealy Woods	pNHA	Proposed	South Dublin Bay	pNHA	Proposed
Grand Canal	pNHA	Proposed	The Murrough	pNHA	Proposed
Great Sugar Loaf	pNHA	Proposed	Thomastown Bog	pNHA	Proposed
Hodgestown Bog NHA	NHA		Trim	pNHA	Proposed
Howth Head	pNHA	Proposed	Vale Of Clara (Rathdrum Wood)	pNHA	Proposed
Ireland's Eye	pNHA	Proposed	Vartry Reservoir	pNHA	Proposed
Jamestown Bog NHA	NHA		White Lough, Ben Loughs And Lough Doo	pNHA	Proposed
Killyconny Bog (Cloghbally)	pNHA	Proposed	Wicklow Head	pNHA	Proposed
Kilmacanoge Marsh	pNHA	Proposed	Wicklow Town Sites	pNHA	Proposed
Kilpatrick Sandhills	pNHA	Proposed	Wooddown Bog NHA	NHA	
Kilteel Wood	pNHA	Proposed			

Note: The basic designation for wildlife is the Natural Heritage Area (NHA). In addition, there are proposed NHAs (pNHAs), which following proposal were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated; this process is managed by NPWS. Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

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Table 5.4: Nutrient Sensitive Waters

Name	Water Body Type	WMU	Overall Status	Conservation Status	Overall Protected Area Status
River Boyne	River	Boyne Lower	Moderate	Unassigned	Unassigned
River Liffey	River	Liffey	Moderate	Unassigned	Unassigned
Broadmeadow Estuary (Inner)	Transitional/ Coastal	Donabate		Moderate	Less than good
Liffey Estuary	Transitional/ Coastal			Good	Less than good

Table 5.5: Salmonid Rivers

Name	Overall Status
Dargle (River)	Moderate
Vartry (River)	Moderate
Boyne (River)	Moderate

Table 5.6: Shellfish Waters

Name	Protection Type
Balbriggan/Skerries	Shellfish Waters
Malahide	Shellfish Waters

Table 5.7: Bathing Waters

Name	Local Authority	Level of Compliance (Bathing Season)					
		2002	2003	2004	2005	2006	2007
Clogga Beach	Wicklow	Mandatory	Guide	Guide	Guide	Guide	Guide
Brittas Bay south	Wicklow	Non Compliant	Guide	Guide	Guide	Guide	Guide
Brittas Bay north	Wicklow	Non Compliant	Guide	Guide	Guide	Guide	Guide
Silver Strand	Wicklow	Guide	Guide	Guide	Guide	Guide	Guide
Greystones	Wicklow	Guide	Guide	Guide	Guide	Guide	Mandatory
Bray	Wicklow	Guide	Non Compliant	Mandatory	Guide	Guide	Mandatory
Killiney	Dun Laoghaire Rathdown	Guide	Guide	Guide	Guide	Guide	Guide
Seapoint	Dun Laoghaire Rathdown	Guide	Guide	Guide	Guide	Guide	Guide
Merrion Strand	Dublin City	Mandatory	Guide	Mandatory	Non Compliant	Guide	Mandatory
Sandymount Strand	Dublin City	Mandatory	Mandatory	Mandatory	Mandatory	Guide	Guide
Dollymount Strand	Dublin City	Mandatory	Guide	Guide	Guide	Mandatory	Guide
Sutton	Fingal	Mandatory	Mandatory	Mandatory	Non Compliant	Mandatory	Mandatory
Portmarnock	Fingal	Mandatory	Guide	Guide	Mandatory	Guide	Mandatory
Malahide	Fingal	Mandatory	Guide	Guide	Guide	Non Compliant	Mandatory
Donabate	Fingal	Guide	Guide	Guide	Guide	Guide	Mandatory
Portrane	Fingal	Guide	Guide	Guide	Guide	Guide	Guide
Rush	Fingal	Mandatory	Guide	Mandatory	Guide	Guide	Guide
Loughshinny	Fingal	Guide	Guide	Mandatory	Mandatory	Mandatory	Mandatory
Skerries	Fingal	Mandatory	Mandatory	Non Compliant	Guide	Guide	Mandatory
Balbriggan	Fingal	Mandatory	Non Compliant	Non Compliant	Mandatory	Non Compliant	Non Compliant
The Cut, Lough Lene	Westmeath	Guide	Guide	Guide	Guide	Guide	Guide
Laytown/Bettystown	Meath	Mandatory	Mandatory	Mandatory	Guide	Guide	Mandatory

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Table 5.8: Protected Drinking Waters

New Name	Water Body Type	WMU	Overall Status
Loughlene Adeel Stream	River	Deel	Good
Blackwater Upper	River	Blackwater North	Poor
Mattock Mid	River	Mattock	Moderate
Knightsbrook Lower	River	Boyne Lower	Poor
Chapel Lake	River	Blackwater North	Good
Athboy Lower	River	Athboy	Poor
Nadreegeel Lough Upper	River	Blackwater North	Good
Blackwater Lower	River	Blackwater North	Moderate
Ankersland	River	Deel	Moderate
Avonbeg Lower	River	Avoca	Moderate
Ballycreen	River	Avoca	Moderate
Glenmacross Lower	River	Avoca	Poor
Ballinanty	River	Avoca	High
Shanganagh	River	Shanganagh	Good
Glencullen	River	Dargle	Good
Goldmine Lower	River	Avoca	High
Vartry	River	Vartry	Good
Avoca Upper	River	Avoca	Bad
Potter's	River	Potters	Good
Ballyward Upper	River	Liffey	Good
Dodder 2	River	Dodder	Moderate
Woodend	River	Liffey	High
Liffey Lower	River	Liffey	Moderate
Boyne Lower	River	Baltray	Moderate
Acurry (Lough)	Lake	Blackwater North	Good
Drumkeery Lough	Lake	Deel	Poor
Bane (Lough)	Lake	Deel	Moderate
Lene (Lough)	Lake	Blackwater North	Moderate
Nadreegeal Loughs	Lake	Blackwater North	Moderate
Athboy	Groundwater		Good
Trim	Groundwater		Good
Kilcullen	Groundwater		Good
Wicklow East	Groundwater		Good
Dublin Urban	Groundwater		Good
Bailieborough	Groundwater		Good
Wicklow Central (Avoca Mine)	Groundwater		Good
Dublin	Groundwater		Poor
Wicklow South	Groundwater		Good
Wilkinstown	Groundwater		Good
Swords	Groundwater		Good
Duleek	Groundwater		Good
Lusk-West	Groundwater		Good
Lusk-Bog of the Ring	Groundwater		Poor
Moynalty	Groundwater		Good
Bettystown	Groundwater		Poor
Curragh S&G	Groundwater		Good
Longwood	Groundwater		Good
Moynalvy	Groundwater		Good
Realtage	Groundwater		Good
Donore	Groundwater		Good
Swords Urban	Groundwater		Good
Lusk-East	Groundwater		Poor
Lough Lene	Groundwater		Poor
Drogheda	Groundwater		Poor
Newbridge Urban	Groundwater		Good
Naas	Groundwater		Good
Hill of Tara	Groundwater		Good
Drogheda Urban	Groundwater		Poor
Navan Sth Urban	Groundwater		Good
Dunshaughlin	Groundwater		Good
Greystones Urban	Groundwater		Good
Hynestown	Groundwater		Good
Bray Urban	Groundwater		Good
Naas Bedrock Sth Urban	Groundwater		Good
Kilcoole S&G	Groundwater		Good
Trim Urban	Groundwater		Good
Enniskerry S&G	Groundwater		Good
Balbriggan	Groundwater		Good
Balbriggan Urban	Groundwater		Good

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New Name	Water Body Type	WMU	Overall Status
Navan Orebody	Groundwater		Good
Arklow_Urban	Groundwater		Good
Balrothery	Groundwater		Good
Kilrathmurry S&G	Groundwater		Good
Old Kilcullen S&G	Groundwater		Good
Gormanstown S&G	Groundwater		Good
Blessington S&G	Groundwater		Good
Ashbourne Urban Sth	Groundwater		Good
Navan Tailings	Groundwater		Good
Naas Bedrock Nth Urban	Groundwater		Good
Ballymore Eustace S&G	Groundwater		Good
Castlekeeran S&G	Groundwater		Good
Ashford S&G	Groundwater		Good
Ballany S&G	Groundwater		Good
Rush Urban	Groundwater		Good
Skerries Sth Urban	Groundwater		Good
Ashbourne Urban Nth	Groundwater		Good
Navan Nth Urban	Groundwater		Good
Navan Orebody 2	Groundwater		Good
Skerries Nth Urban	Groundwater		Good
Naas_CL	Groundwater		Good
Swords_CL	Groundwater		Good
Walkinstown_CL	Groundwater		Good
Naas_SG Urban	Groundwater		Good
Fassaroe_LF	Groundwater		Good
Basketstown_LF	Groundwater		Good
Tinnakilly_CL	Groundwater		Good
Boyle_CL	Groundwater		Poor
Aleckafin_CL	Groundwater		Good
Drogheda_LF	Groundwater		Poor
Rye Water Valley GWDTE	Groundwater		Good
Mount Hevey Bog	Groundwater		Good
Killyconny Bog (Cloghbally)	Groundwater		Good
Raheenmore Bog	Groundwater		Good
Newtown Lough	Groundwater		Good

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6 What are the Objectives?

As with all Plans, objectives need to be set to enable us to monitor progress and to determine success. The establishment of environmental objectives for each water body is the responsibility of the Local Authorities within the Eastern River Basin District.

This Plan sets out the objectives for our waters and proposes the actions that are needed to achieve these objectives while promoting sustainable use of our waters. The Eastern River Basin District has also produced an additional level of information, which is intended to provide detailed supporting information for this Plan. This is in electronic form and can be downloaded from the website www.erbd.ie.

The purpose of the Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters which:

a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

b) promotes sustainable water use based on a long-term protection of available water resources;

c) aims at enhanced protection and improvement of the aquatic environment, including through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;

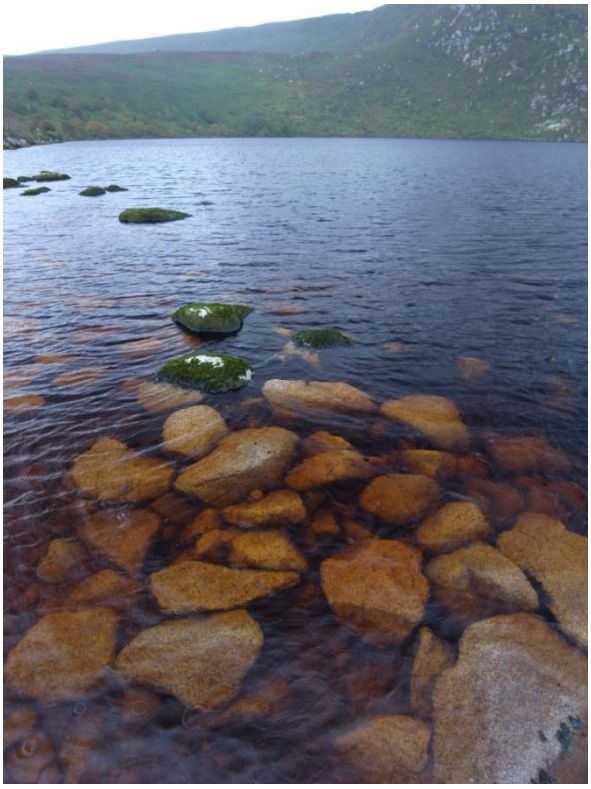
d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and

e) contributes to mitigating the effects of floods and droughts.

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Waters must have sufficient quantity and be of satisfactory quality to protect the aquatic environment and beneficial uses. Many of our surface waters already have a healthy ecology and the first challenge is to take action to preserve these waters. Similarly, many of our groundwaters have satisfactory quality and sustainable levels and these too must be protected.

Both surface waters and groundwaters that support protected areas (e.g. bathing and shellfish waters, nutrient sensitive areas, protected habitats and species) must enable these protected areas to achieve their stricter status standards. These objectives are, in general, to be achieved by target date of 2015.



Water quality objectives have been established for each water body, taking account of how the waters should naturally be, whether they have a special status (such as Special Protection Areas) and whether they have been physically changed in some way which cannot realistically be reversed.

The objective of 'prevent deterioration' applies to all waters and it is, therefore, possible for a water body to have the dual objectives of 'prevent deterioration' and to 'improve to achieve at least good status'.

The definition of objectives is a key step in deciding on Programmes of Measures for each water body and developing the River Basin Management Plan. Interim classifications (or status) for all waters developed by the EPA in 2008 and updated in July 2009 provide the baseline for setting of the environmental objectives for each water body.

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6.1 Surface Waters

For high status water bodies there is a clear objective of maintaining their status and special measures have been developed by the EPA to achieve this. In the Eastern River Basin District, 13 river water bodies (out of 365), 4 of our 26 lakes and 3 of our coastal water bodies are of high status.

Waters of good status have an objective of non-deterioration, although some will improve to high status. Some 19 of our lakes and 143 of our rivers currently achieve good status.

The majority of waters are of less than good status and a minimum objective of achieving good status has been set for many of these water bodies. In tandem with this objective is the objective of no deterioration which applies to all waters. Maps 6.1, 6.2 and 6.3 show the water bodies that will be restored to good status and those that must be protected from deterioration. It is anticipated that the measures selected for each water body will improve their status, but it is recognised that this process could be lengthy, both in terms of implementing the measures in all waters throughout the District (this is addressed in more detail in Section 10) and recovery rates. This first Plan will deliver widespread improvements by 2015 by addressing the major pressures affecting our waters. Subsequent Plans will be more focused and will be based on more data and a better understanding of the benefits of the various measures; these later planning cycles should include the improvement of more waters to high status.

6.2 Groundwater

Groundwaters are classified as either good or poor status. As described in Section 3.5, only 10% of the groundwater bodies in the ERBD are classified as poor status. Our objectives, as shown in Map 6.3, are therefore to:

- Achieve good status in those groundwater bodies which are presently classified as being at poor status; and
- Protect those groundwater bodies that are currently at good status (i.e. maintain their good status).

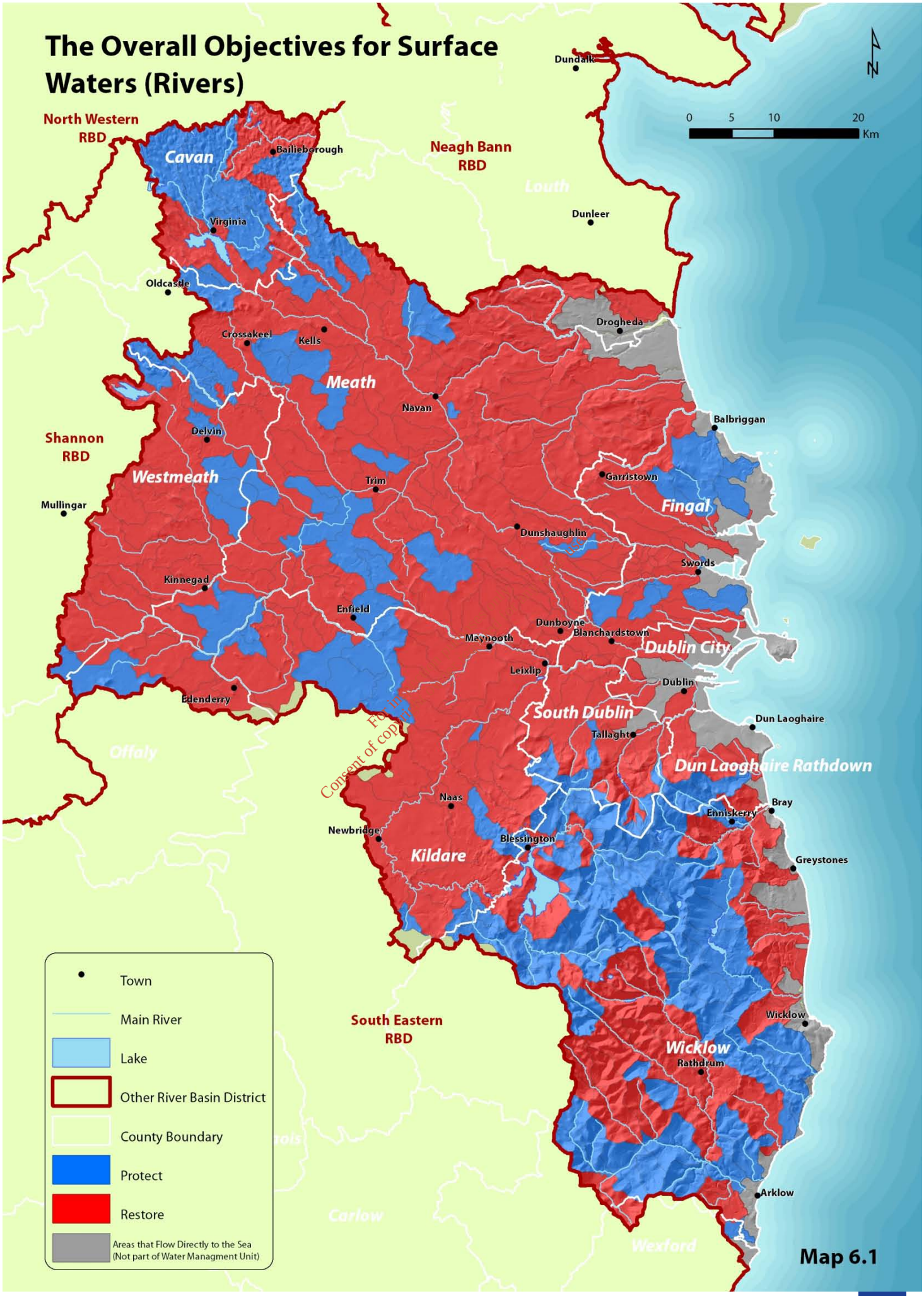
The measures that have been selected to achieve this are highlighted in Section 9, but two groundwater bodies warrant clarification:

The **Lusk Bog of the Ring** has been designated as being of good chemical status but poor quantitative status. Since the start of 2009 abstraction rates at the Bog of the Ring water treatment plant have averaged approximately 3.5 megalitres/day. Recent construction of a new pipeline to Jordanstown reservoir has allowed a reduction in abstraction from the aquifer to 2.7 megalitres/day. This is considerably lower than the 80%of available recharge required by the EPA. Abstraction rates in the future will be limited by Fingal County Council to 3.15 megalitres/day. Water levels in wells surrounding the plant will continue to be monitored and are expected to show stable or rising groundwater levels in the near future. The intent is to restore the aquifer to good quantitative status before the next assessment by the EPA in 2012; however, it is recognised that groundwater recovery can be slow and so in this Plan a precautionary target date of 2021 for full quantitative recover has been set in line with EPA recommendations. If recovery does occur by 2021 then this will be rectified in the next planning cycle.

The **Wicklow Central (Avoca)** groundwater body represents a special case. A recently completed feasibility study of remediation options (CDM, 2008) suggest that it will be technically very difficult and costly to remediate the mine waste within the timeframes stipulated in the Directive for achieving good status. Treating the point source discharges to the river from the mine has been proven to be viable, but dealing with the pollutants moving through the natural fissures in the rocks and through the spoil is very much more difficult; in addition, health and safety issues at the disused mine site will take priority when defining the course of action to be taken. There is insufficient data available to confirm the viability of restoring this groundwater water body and so a detailed investigative study has been recommended (Section 9) to establish the technical viability of restoration and the costs and benefits of such actions. For the purposes of this Plan, the Avoca groundwater body has been identified as potentially requiring a Less Stringent Objective, but this must be confirmed by a full cost benefit analysis during the first planning cycle.

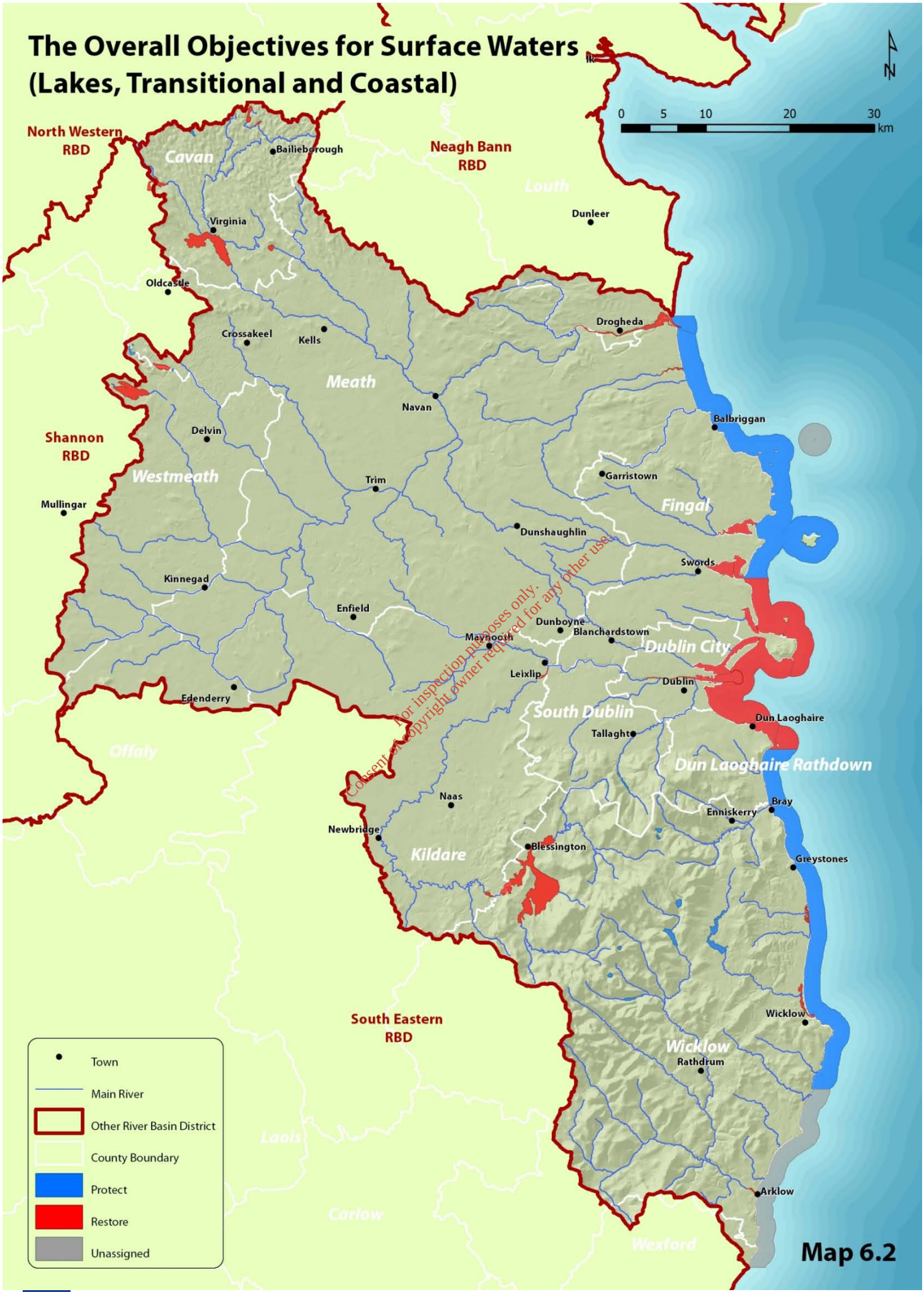
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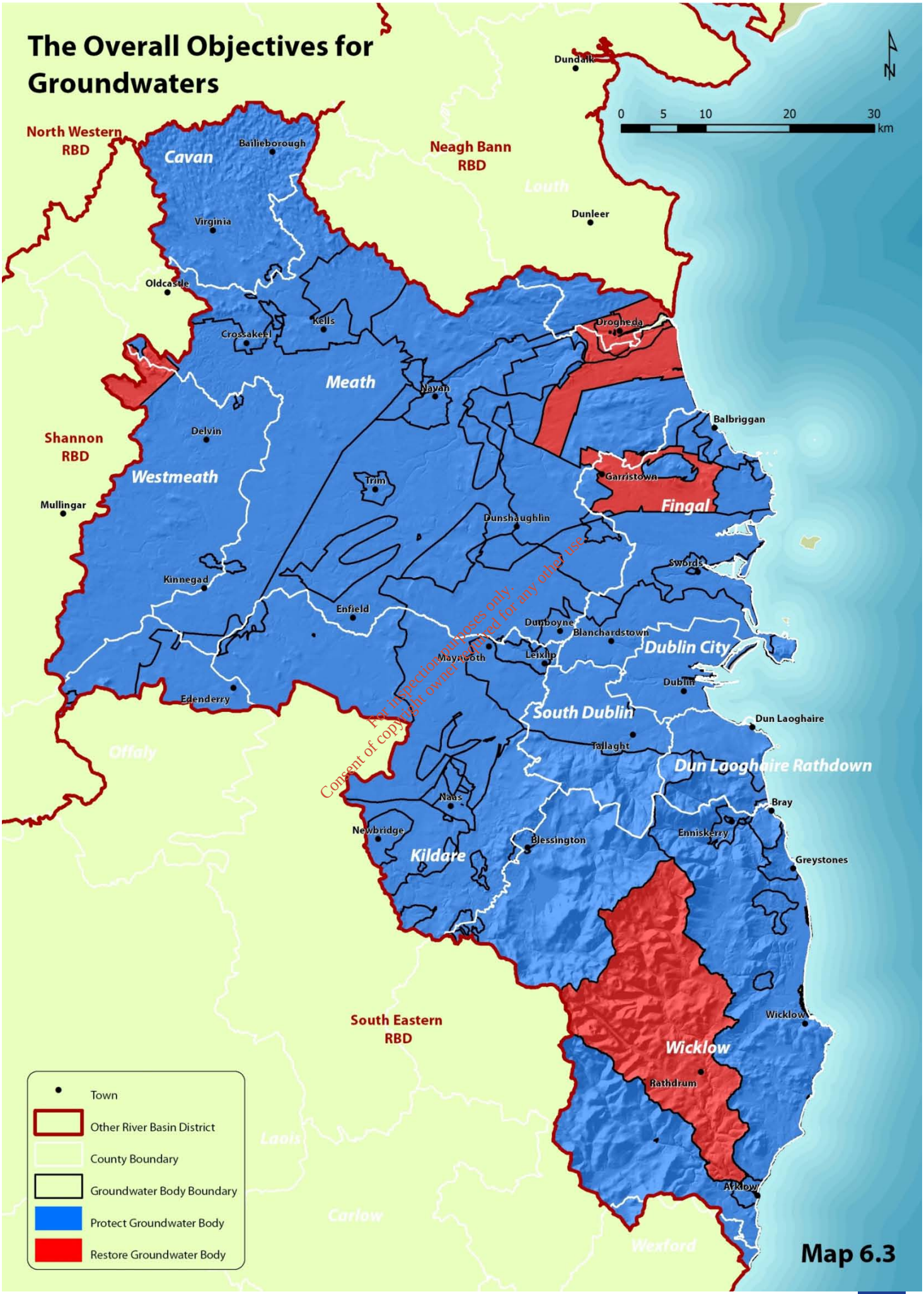
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7 Types of Measures

The improvements to our waters required by the Directive will require specific actions (or measures). Measures are our response to restore waters where there are existing problems and to protect healthy waters from threat. The collection of necessary actions required for each water body is termed the Programme of Measures and these are to be implemented in a coordinated way in each catchment to provide comprehensive protection.

There are two types of measures specified in the Directive, basic and supplementary. However, in the ERBD we have also identified potential new legislation and various types of guidance and guidelines. The following groups of measures are described in the following sections:

- Basic measures;
- Measures for high status waters and protected areas;
- Measures for heavily modified and artificial water bodies;
- Supplementary measures; and
- Planned and potential measures.

7.1 Basic Measures

Basic measures are those required by various pieces of existing legislation, i.e. required by law and are not optional in any water body. These are defined in the Directive. There are eleven key European Directives which must be implemented by all Member States and 11 other basic measures to be addressed. We have also identified nine other relevant European Directives. The European Directives with their equivalent Irish legislation are listed in the Tables 7.1, 7.2, 7.3 and 7.4.

Table 7.1: Water Framework Directive

EU Directive	Irish Legislation	Purpose	Responsible Organisations
Water Framework Directive (2000/60/EC)	S.I. 722 European Communities (Water Policy) Regulations 2003	Water resource management	DEHLG, Local Authorities, Other Public Bodies

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Table 7.2: 11 Key Basic Directives

EU Directive	Irish Legislation	Purpose	Responsible Organisations
The Bathing Water Directive (2006/7/EC) (76/160/EEC repealed)	S.I. 79 of 2008 Bathing Water Quality Regulations, 2008	Bathing waters for human health	Local Authorities, EPA, DEHLG
The Birds Directive (79/409/EEC)	S.I. 291 of 1985 EC (Conservation of Wild Birds) and amendments	Bird and habitat conservation	DEHLG, NPWS, Local Authorities, An Bord Pleanála, All Public Authorities
The Drinking Water Directive (98/83/EC) (80/778/EEC repealed 25/12/2003)	S.I. 278 of 2007 EC (Drinking Water Regulations) (No 2)	Quality of drinking water for human health	EPA, HSE, Local Authorities, DEHLG
The Major Accidents (Seveso) Directive (96/82/EC) extended by Directive 2003/105/EC	S.I. 74 of 2006 EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2006	Major hazards and risks	Manufacturers, Local Authorities, DETE
The Environmental Impact Assessment Directive (85/337/EEC) as amended by Directive 97/11/EC	S.I. 349 of 1989 EC (Environmental Impact Assessment Regulations) 1989 and amendments	Environmental consequences of individual projects	EPA, Local Authorities
The Sewage Sludge Directive (86/278/EEC)	S.I. 148 of 1998 Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 – 2001	Human, animal, soil and vegetation protection	Local Authorities, DEHLG
The Urban Wastewater Treatment Directive (91/271/EEC)	S.I. 254 of 2001 Urban Waste Water Treatment Regulations, 2001 and 2004	Collection, treatment and discharge of domestic and certain industrial waste waters	Local Authorities

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EU Directive	Irish Legislation	Purpose	Responsible Organisations
The Plant Protection Products Directive (91/414/EEC)	S.I. 83 of 2003 EC (Authorisation, Placing on the market, use and control of Plant Protection Products) Regulations, 2003 and amendments S.I. 224 of 2005 and S.I. 381 of 2006. S.I. 624 of 2001 EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001. S.I. 320 of 1981 EC (Prohibition of certain active substances in plant protection products). S.I 565 of 2008 EC (Pesticides Residues) Regulations 2008	Protection of human and animal health	Pesticide Control Service, DEHLG, Relevant persons
The Nitrates Directive (91/676/EEC)	S.I. 378 of 2006 EC Good Agricultural Practice for Protection of Waters Regulations, 2009	Protect surface and groundwater from agricultural pollution	DEHLG, DAFF, EPA, Local Authorities
The Habitats Directive (92/43/EEC)	S.I. 94 of 1997 EC (Natural Habitats) Regulations, 1997 – 2005	Habitat conservation and species protection	DEHLG, NPWS, Local Authorities, An Bord Pleanála, All public authorities
The Integrated Pollution Prevention Control Directive (96/61/EC)	S.I. 85 of 1994 EPA (Licensing) Regulations, 1994 & 2004	Minimise pollution from industrial sources	EPA, DEHLG, Local Authorities

Bathing Waters



The purpose of these regulations (S.I. 79 of 2008 Bathing Water Quality Regulations) is to preserve, protect and improve the quality of bathing waters, thereby protecting human health. The new actions require Local Authorities to undertake comprehensive monitoring programmes, identify pollution sources and draw up management plans (with active involvement from users of the sites) to minimise risks to bathers. If a site has water quality problems, preventative and remedial actions must be taken. Local Authorities must also make information about quality and management readily available to the public. Bathing waters are part of the Water Framework Directive's register of protected areas.

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Birds and Habitats



Both of these directives have similar conservation aims: protecting natural habitats, fauna and flora and creating a European network of protected sites including water-dependent species and habitats. The resulting Special Areas of Conservation and Special Protection Areas designated by Member States make up the European Natura 2000 network.

Irish natural habitats laws were introduced in 1997 and updated in 1998 and 2005 to transpose both nature conservation directives (S.I. 291 of 1985 EC (Conservation of Wild Birds and S.I. 94 of 1997 EC (Natural Habitats) Regulations, 1997 – 2005). Key provisions include the Minister of the Environment, Heritage and Local Government's powers to control damaging activities within and outside designated sites, and powers devolved to other ministers and agencies requiring them to incorporate Natura 2000 site protection into all their plans and programmes by carrying out appropriate assessment in accordance with Article 6 of the Habitats Directive. Conservation measures for Natura 2000 sites are to be established in management plans. Natura 2000 sites are also part of the Water Framework Directive's register of protected areas.

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Drinking Waters

The objective of these regulations (S.I. 278 of 2007 EC (Drinking Water Regulations)) is to protect the health of consumers by ensuring that the quality of water intended for human consumption is wholesome and clean. Local Authorities are responsible for Ireland's water service provision, with major capital schemes delivered under the Water Services Investment Programme and smaller schemes falling under the Rural Water Programme.

The Department of the Environment, Heritage and Local Government sets government policy, administers major schemes and ensures that funding is available. In 2007, the Water Services Act introduced a new policy requiring Water Services Strategic Plans to support proper planning and sustainable development, with clear links to both development plans and river basin plans. Technical guidance and training on the preparation of Water Service Strategic Plans have been developed under the supervision of the Environmental Services National Training Group. Local Authorities must prepare Water Services Strategic Plans taking full account of objectives established for waters in river basin plans. In addition, the Water Framework Directive requires new measures to be taken to protect drinking water sources, which are also part of the Directive's register of protected areas.

Major Accidents

National regulations (S.I. 74 of 2006 EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations), concern the control of major hazards involving dangerous substances. The Health and Safety Authority must organise a system of inspections or other suitable control measures for relevant establishments. Internal and external emergency plans prepared by operators and the local competent authority, addressing the risks posed by relevant installations, must take full account of objectives established for nearby waters in river basin plans.



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Environmental Impact Assessment

These regulations (S.I. 349 of 1989 EC (Environmental Impact Assessment Regulations)) ensure that environmental consequences of individual projects are identified and systematically assessed, with any adverse effects being avoided, reduced or offset before authorisation can be given under planning law. Review of regional planning guidelines, county development plans and local area land-use and spatial plans should take account of objectives established for waters in river basin management plans; thus ensuring that new projects will consider Water Framework Directive objectives. Regulations introduced in 2004 to transpose the Strategic Environmental Assessment Directive also provide for further linkage between river basin management and land-use planning at a strategic level.

Sewage Sludge

National law, made in 1991 through Waste Management Regulations (amended in 1998 and 2001), sets standards and practices to be followed by Local Authorities for using sewage sludge in agriculture; encouraging use whilst regulating activities to prevent harmful effects on soil, vegetation, animals and humans. To this end, all Local Authorities have prepared sludge management plans in line with Ireland's Code of Good Practice for the Use of Biosolids in Agriculture; they are also required to maintain a register of sludge/biosolids movement and advance notification of spreading is required in accordance with a nutrient management plan. Local Authorities will assess whether their sludge management plans need revision or review with regard to the objectives set in river basin management plans.

Urban Wastewater Treatment

S.I. 254 of 2001 Urban Waste Water Treatment Regulations deal with the collection, treatment and discharge of urban wastewater and wastewater from certain industrial sectors. As with water supply, Local Authorities are responsible for sewerage service delivery under Water Services Investment and Rural Water Programmes and must prepare Water Services Strategic Plans with the river basin management plans in mind. Local Authorities must undertake monitoring at treatment plants and make provision for pre-treatment requirements for industrial wastewater entering collection systems and treatment plants. Proposed Environmental Objectives Regulations, due to be made in 2009, will provide a basis for deciding on the appropriate treatment required in order to meet objectives, enabling necessary infrastructure and operational improvements to be prioritised in line with Water Framework Directive objectives.

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Plant Protection Products

These regulations, introduced in 1981 and amended in 2001 and 2003, concern authorisation of plant protection products for marketing or use and aim to ensure no harmful human and animal health effects and no unacceptable environmental impact. Pesticides Control Service (Department of Agriculture, Fisheries and Food) operates the authorisation system. Only products which can be used safely are authorised and this list is kept under review.

The EU Commission is developing a strategy for sustainable use of pesticides focusing on the use-phase in the life-cycle of pesticides and introducing specific measures to protect waters from the impact of pesticides. The 2006 draft Sustainable Use of Pesticides Directive proposes measures to establish pollution reduction programmes, which must include measures such as buffer strips or the use of particular technical equipment to reduce spray drift. There are also proposed measures to significantly reduce or ban the use of pesticides in safeguard zones used to protect drinking water sources and in sensitive areas (such as Natura 2000 sites) based on relevant risk assessments. The National Action Plan for Sustainable Use of Pesticides is discussed in more detail in Section 7.7.

Nitrates

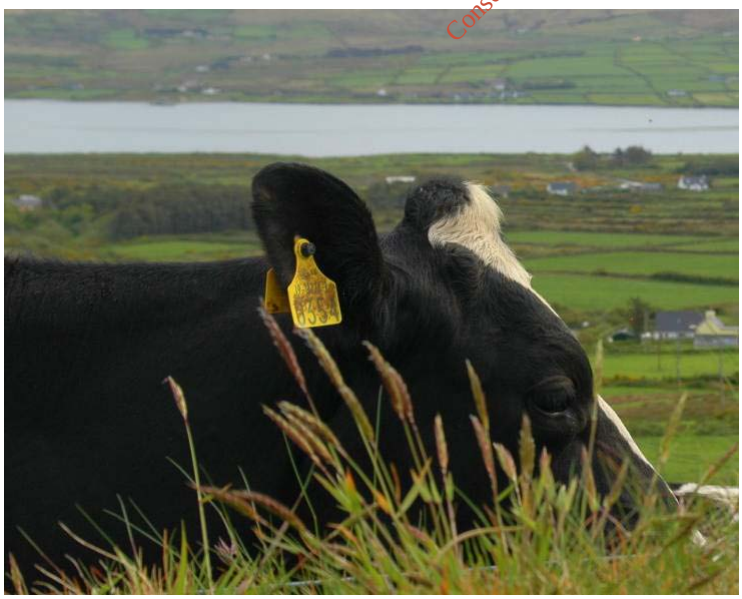
These regulations, S.I. 378 of 2006 EC Good Agricultural Practice for Protection of Waters Regulations, amended in 2009, protect waters against pollution caused by nitrates (and also phosphorus) from agricultural sources. Ireland set up a National Action Programme covering the whole national territory. The Minister for the Environment, Heritage and Local Government publishes action programmes following consultation with the Minister Agriculture, Fisheries and Food and other interested parties. The Good Agricultural Practice for Protection of Waters Regulations aim to reduce water pollution caused or induced by nitrates and phosphates from agricultural sources and to prevent further such pollution. Compliance is primarily a matter for individual farmers. The effectiveness of implementation is monitored by surveys of water quality and agricultural practices, including studies of agricultural mini-catchments.

The Nitrate Regulations deal with three main areas of farmyard management:

- Keeping soiled water to a minimum;
- Collecting effluents, organic fertilisers, etc.; and
- Storing effluents and organic fertilisers properly.

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All storage facilities for organic fertilisers must now comply with construction specifications from the Department of Agriculture and Food. They must be designed and constructed to prevent runoff and seepage directly or indirectly, into groundwater or surface water. The Nitrates Regulations divide the country into three zones with varying required storage capacity for organic fertiliser.



Storage facilities are required for:

- livestock manure;
- dairy washings;
- soiled water;
- effluents from dungsteads;
- effluents from farmyard manure pits; and
- effluents from silage pits.

The Department of Agriculture, Fisheries and Food, Local Authorities and the Environmental Protection Agency have responsibilities for monitoring and identifying waters which are polluted or likely to become polluted and for developing and implementing action programmes to reduce and prevent such pollution. The EPA has ongoing water quality monitoring programmes. Recently amended regulations strengthen the enforcement role of Local Authorities.

Technical guidance and training on agricultural pollution inspections are currently being developed under the supervision of the Environmental Services National Training Group to ensure consistent and effective enforcement nationwide. Teagasc commenced mini-catchment work in 2007 to review the effectiveness of the current National Action Programme. The outputs from the monitoring of water quality, farm practices and representative mini-catchments will be critical to demonstrating the effectiveness of the action programme and will determine the

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modifications (if any) needed to the programme during its review process. The current programme will be reviewed in 2009 and, where appropriate, adjustments will be introduced in the second 4 year action programme starting in 2010.

Integrated Pollution Prevention Control

This Directive aims to minimise pollution from various industrial sources (including intensive agricultural enterprises), in order to ensure a high level of protection of the environment. It has been implemented in national law through the Environmental Protection Agency Acts and the associated licensing regulations. Operators of certain industrial installations are required to obtain an authorisation (environmental permit) from the EPA. The permit conditions include emission limit values; soil, water and air protection measures; and waste management measures; and must be based on Best Available Techniques. The establishment of environmental objectives in river basin management plans will require permits to take full account of these objectives.

The 11 Basic Directives have a direct impact on water protection; the areas in which they contribute to addressing our water issues are shown in Table 7.3.

Table 7.3: Roles of the 11 Basic Directives

Basic Measure	Wastewater, Industrial & Other Point Sources	Agriculture	Unsewered Properties	Forestry	Physical Modifications	Dangerous Substances	Abstractions	Landfills, Quarries & Mines
Bathing Waters	✓	✓	✓	✓				✓
Birds	✓	✓	✓	✓	✓		✓	
Habitats	✓	✓	✓	✓	✓		✓	
Drinking Waters	✓						✓	✓
Major Accidents	✓					✓		
Environmental Impact Assessment	✓	✓	✓	✓	✓		✓	✓
Sewage Sludge		✓						
Urban Wastewater Treatment	✓							
Plant Protection Products		✓		✓		✓		
Nitrates		✓						
Integrated Pollution Prevention Control		✓				✓		✓

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The Directive lists eleven other relevant Directives which also benefit the water environment or its users; these are shown in Table 7.4.

Table 7.4: Other Relevant Directives

EU Directive	Irish Legislation	Purpose	Responsible Organisations
The Groundwater Directive (80/68/EEC) (To be revoked 22/12/2013)	S.I. 684 of 2007 Waste Water Discharge (Authorisation) Regulations, 2007. S.I. 41 of 1999 Protection of Groundwater Regulations, 1999 (to be revoked 22/12/2013)	Protecting groundwater from discharges and unsuitable artificial recharge	DEHLG, EPA, Local Authorities
The Dangerous Substances Directive (2006/11/EC) (76/464/EEC Repealed) and Daughter Directives	S.I. 684 of 2007 Waste Water Discharge (Authorisation) Regulations, 2007. Water Services Act 2007. S.I. 12 of 2001 Water Quality Dangerous Substances Regulations, 2001. Local Government (Water Pollution) Act, 1977 and amendments (Section 4 and 16).	Human and ecological health	Health & Safety Authority, Operators, EPA, DEHLG, Local Authorities
Surface Water Abstraction Directive (75/440/EEC)	S.I. 294 of 1989 Quality of Surface Water intended for the Abstraction of Drinking Water	Human health	DEHLG, Local Authorities
The Shellfish Water Directive (79/923/EEC)	S.I. 268 of 2006 The Quality of Shellfish Waters Regulation Regulations, 1998	Human health	NPWS, DEHLG, Local Authorities
Strategic Environmental Assessment Directive (2001/42/EC)	Planning and Development Regulations 2001 - 2007 (S.I. 436 of 2004)	Environmental consequences of plans and programmes	EPA, Local Authorities
EU Directive on port reception facilities for ship-generated waste and cargo residues (2000/59/EC)	S.I. 117 of 2003 EC (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations, 2003	Environmental protection	Port Authorities, DETE
Dangerous Substances	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	Human and ecological health	Health & Safety Authority, Operators, EPA, DEHLG, Local Authorities

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EU Directive	Irish Legislation	Purpose	Responsible Organisations
The Floods (Directive 2007/60/EC)	Required to be transposed into Irish law before 26 November 2009	Assessment and Management of Flood Risks	OPW
Directive on the Protection of groundwater against pollution 2006/118/EC	Required to be transposed into Irish Law in 2009	Protection of Groundwater	EPA, DEHLG

Other Basic Measures

Whilst the European Directives listed above can be quite prescriptive in how they must be implemented, the 11 Other Basic Measures listed in the WFD and presented below can be implemented by the Member States individually. In Ireland several of these measures are already addressed through existing legislation. Some of the existing legislation may require amendment to incorporate the measures below or in some cases new legislation must be implemented.

- Cost Recovery for water use (DEHLG, Local Authorities);
- Measures to promote efficient and sustainable water use (DEHLG, Local Authorities, owners/occupiers);
- Protection of drinking water sources (DEHLG, EPA);
- Control of abstraction and impoundment (DEHLG, Local Authorities, ESB, relevant persons);
- Authorisation of discharges to groundwater (DEHLG, EPA);
- Control of point source discharges (Local Authorities, EPA, DETE, DCENR, Inland Fisheries Ireland, NPWS, relevant persons);
- Control of diffuse point discharges (Local Authorities, EPA, DETE, DCENR, Inland Fisheries Ireland, NPWS, relevant persons);
- Control of priority substances (Health & Safety Authority, Operators, EPA, DEHLG, Local Authorities);
- Controls on physical modifications of surface waters (DEHLG, Local Authorities, Port Authorities);
- Controls on other activities impacting on water status (relevant organisations and individuals); and
- Prevention or reduction of the impact of accidental pollution incidents (Local Authorities, An Garda Siochana, HSE, DEHLG, Department of Health and Children, Department of Justice, Equality and Law Reform).

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In addition to the basic measures (existing legislation) listed above, the Irish government is scheduled to develop new legislation addressing several issues, including implementing some of the 11 Other Basic Measures. When this new legislation is enacted, it will be included in the actions proposed for the Eastern River Basin District.

The implementation of existing and new basic measures will have a major beneficial impact on waters in the Eastern River Basin District. All relevant EU Directives have been or are being transposed to Irish law in recent years and they are being progressively implemented.

7.2 Measures for High Status and Protected Areas

In addition to the basic measures, the Western River Basin District Project developed (on behalf of the EPA) measures specifically to protect high status and protected areas (Table 7.5). As with the basic measures, these will be mandatory for all such waters.

Table 7.5: National measures for high status waters and protected areas developed on behalf of the EPA (courtesy of the EPA/Western River Basin District Project)

Action	Objective of measure	Responsible Agency	Type
Continued monitoring and survey by NPWS to confirm conservation status.	Protect/Restore	NPWS	Monitoring
Clarification of location of the features at unfavourable conservation status.	Restore	NPWS	Monitoring
Implementation of land management measures within protected areas.	Restore	NPWS	Management
Notification of appropriate agencies if water status issues are found to arise.	Restore	NPWS	Management
Update National Abstractions Register.	Protect	Local Authorities	Data
Identify alternative solutions where existing abstractions are implicated in causing unfavourable conservation status.	Restore	Local Authorities/Private	Management
Use existing analyses of risks and pressures in relevant catchments to identify the suite of WFD Measures that will contribute to resolving unfavourable conservation status for individual SACs. Include examination of ortho-photography in the review. LA Biodiversity Officers should be involved. Consult with NPWS .	Restore	RBM Planners/Local Authorities/NPWS	Management

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Action	Objective of measure	Responsible Agency	Type
Consult with NPWS on identifying any additional risks and sensitivities, and any additional Measures relevant to individual sites/features at unfavourable conservation status, including investigative/operational monitoring needs.	Restore	RBM Planners/Local Authorities/NPWS	Management
Document plans specific to each SAC unfavourable conservation status issue, (with reference to Sections 4 and 5 of the guidance, submit to and implement in consultation with NPWS.	Restore	RBM Planners/Local Authorities/NPWS	Management
GIS mapping of the currently known extent of Freshwater Pearl Mussel populations onto the EPA river sections, including any distribution updates available from the rapid assessment survey during 2008, with annual updates in 2009 and 2010 with any additional distribution data.	Protect	NPWS	Data
Notification and distribution by NPWS of the FPM database to all relevant Local Authorities and other agencies including the EPA, Forest Service, Coillte, COFORD, Inland Fisheries Ireland.	Protect	NPWS	Management
Notification by NPWS of all Freshwater Pearl Mussel monitoring transect locations to other monitoring agencies, to avoid any accidental damage by them.	Protect	NPWS	Management
Review water status, risks and pressures in catchments associated with Freshwater Pearl Musssel populations, in order to assist NPWS in identifying the more readily recoverable populations, and in identifying potential translocation rivers for *M. durrovensis*.	Protect/Restore	RBM Planners	Management
On-going identification by NPWS of Freshwater Pearl Mussel populations for which there is evidence that existing pressures are such that populations may be recoverable, with a view to applying appropriate conservation measures to them.	Protect/Restore	NPWS	Monitoring
Investigative monitoring of river water quality parameters in association with NPWS rapid assessment monitoring.	Protect/Restore	EPA/Local Authorities	Monitoring
Review controls on use and disposal of pesticides including sheep-dip.	Protect/Restore	DAFF	Management
Assessment of known populations of *Vertigo* species by NPWS is on-going; it is recommended that assessments are updated annually to 2010 to inform Programmes of Measures for these species.	Protect/Restore	NPWS	Monitoring
Locational data for *Vertigo* species in GIS should be made available by NPWS to the relevant implementing agencies.	Protect/Restore	NPWS	Data
Use guidance on Article 6 assessment for Plans and Projects (Section 6 of Guidance Document).	Protect	LA/Private	Management
Use sensitivities of water dependent habitats and species to water quality and hydrological pressures as set out in Sections 3 and 5 to guide decision making.	Protect	LA/Private	Management
Consult with NPWS.	Protect	All	Management
Develop a Code of Good Practice for construction activity in and adjoining watercourses.	Protect	ERFB	Management
Update the Register of Protected Areas in respect of SACs designated under the Habitats Directive for Annex I listed water dependent habitats and Annex II species. (SAC Water Dependency database field WD H S).	Protect	EPA	Data
The SAC Water Dependency database must be included in the EPA ENVision Online Mapviewer WFD protected areas.	Protect	EPA	Data
NPWS to maintain and update the SAC Water Dependency database and notify updates annually.	Protect	NPWS	Data
Update Register of Protected Areas and EPA ENVision Online Mapviewer in respect of SPAs; additional sites have been designated since 2005.	Protect	EPA	Data
Clarify which SPAs are designated for water dependent bird species.	Protect	NPWS	Data
NPWS habitat and species databases should include fields cross-referencing individual habitat features and species distribution to EPA water body codes for river sections, lakes, transitional waters, coastal waters, and ground waters.	Protect/Restore	NPWS	Data

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Action	Objective of measure	Responsible Agency	Type
EPA databases on water body status should include fields cross-referencing individual features to SAC Site Code, SPA Site Code and NPWS Site Name, where the features occur within the boundaries of an SAC or SPA. Fields should also be included to cross-reference lakes to Habitats Directive Annex I listed lake habitats and turloughs, and updated as more habitat information becomes available from NPWS.	Protect/Restore	EPA	Data
The National Abstractions Register should include fields cross-referencing abstractions to the Site Code and Site Name of SACs and SPAs they are located in.	Protect/Restore	EPA	Data
It is recommended that a central Register of relevant databases is established, to include reference to all Water Framework Directive – relevant databases developed and maintained by all relevant agencies including NPWS, EPA, GSI, Inland Fisheries Ireland, Marine Institute, Forest Service, Local Authorities.	Protect/Restore	EPA	Data
All agencies holding relevant databases should establish procedures for regular update and notification of updates.	Protect/Restore	All	Data
Agencies displaying information provided and up-dated by other agencies should establish procedures for updating this information, and a means of identifying which version is currently displayed.	Protect/Restore	All	Data
A review of Notifiable Activities by NPWS is in progress. It is recommended that these include review of the findings of monitoring programmes carried out under Commonage Framework Plans.	Protect/Restore	NPWS	Management
Administrative measures relating to the implementation of approved farm plans are recommended.	Protect/Restore	NPWS	Management
Supports for organic farming within protected areas are recommended.	Protect/Restore	NPWS/DAFF	Management
Nutrient and silt loading issues should be addressed with regard to the ecological requirements of individual Annex listed habitats and species present in individual protected areas, with provision for site-specific variation in soils and underlying geology, slope, livestock type, and seasonal restrictions on grazing and/or mowing regimes.	Protect/Restore	NPWS	Management

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7.3 Measures for Heavily Modified and Artificial Water Bodies

Some surface waters have been substantially changed in character to allow uses such as navigation, water storage, public supply, flood defence and land drainage. These waters are called "heavily modified" or in the case of entirely new water bodies that would not otherwise have existed, "artificial". Heavily modified water bodies and artificial water bodies are listed and described in Section 10.1.

Due to their modified or artificial condition these water bodies can require additional measures to improve their ecological potential. In many cases the structures affect the hydrological regime but often there is inadequate data to assess the impact; the necessary hydrometric data should be collected by the responsible authorities at these sites.

Measures for these special waters were recommended by Waterways Ireland, the South Eastern River Basin District Project (through a DEHLG research project), and the Eastern River Basin District (Tables 7.6 and 7.7).

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Table 7.6: Heavily Modified Water Bodies Measures

Water Body	Recommended Measure	Responsible Authorities
River Cammock	Increase in-channel morphological diversity, e.g., install instream features, 2 stage channels. Protect and enhance ecological value of marginal aquatic habitat, banks and riparian zone. Protect and restore historic aquatic habitats.	LA, OPW, CFB, NPWS
River Dodder	Install Fish Passes (provided a guaranteed rating can be provided to the EPA, DCC and OPW for the new configuration post-works) Protect and enhance ecological value of marginal aquatic habitat, banks and riparian zone	LA, OPW, CFB, NPWS
River Liffey	Hydrometric stations to be erected upstream of Pollaphuca Online dataloggers to be installed at Station 09008 Osberstown, Station 09006 Celbridge and downstream of Leixlip,	LA, EPA
River Santry	Examination of structures to assess opportunities for improvement. Use of soft engineering techniques and sustainable drainage where possible.	LAs
River Tolka	Increase in-channel morphological diversity, e.g., install instream features, 2 stage channels. Protect and enhance ecological value of marginal aquatic habitat, banks and riparian zone.	LA, OPW, CFB, NPWS
Glenasmole Reservoir Lower	None identified	
Glenasmole Reservoir Upper	None identified	
Golden Falls	Station 09007 Golden Falls to be upgraded to an online data logger	
Leixlip Reservoirs	Ecological potential study	LAs, NPWS
Lough Nahanagan	None identified	
Pollaphuca	None identified	
Vartry Reservoir Lower	Hydrometric station to be erected downstream of the Vartry reservoir	LA, EPA
Varty Reservoir Upper	None identified	
Boyne Estuary	Increase in-channel morphological diversity. Restore / create / enhance aquatic and marginal habitats.	LA, OPW, CFB, NPWS
Broadmeadow Estuary	None identified	
Dargle Estuary	Restore / create / enhance aquatic and marginal habitats	LAs, DEMNR, NPWS
Liffey Estuary Lower	None identified	
North Bull Island Lagoon	No additional measures	
Tolka Estuary	Increase in-channel morphological diversity. Restore / create / enhance aquatic and marginal habitats.	LA, OPW, CFB, NPWS
Upper Liffey Estuary	Increase in-channel morphological diversity Restore / create / enhance aquatic and marginal habitats	LA, OPW, CFB, NPWS
Dublin Bay	Restore / create / enhance aquatic and marginal habitats	LA, OPW, NPWS, DEMNR

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Table 7.7: Artificial Water Bodies Measures

Water Body	Recommended Measure	Responsible Authorities
Grand Canal Dock	Elimination of surface water outfalls where possible. Appropriate controls on diffuse pollution.	Local Authority
Grand Canal Edenderry Branch	None identified	
Royal Canal Main Line	None identified	
Grand Canal Main Line W of Lowtown	None identified	
Grand Canal Main Line E of Lowtown	None identified	
Grand Canal Naas & Corbally Branch	None identified	
Boyne Navigation	None identified	
Turlough Hill Reservoir	None identified	

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7.4 Supplementary Measures

Supplementary Measures are required in places where the basic measures alone are judged to be inadequate to achieve good status. These may be specific to particular locations and could be actions included in various good practice and guidance recommendations; alternatively, they may be techniques commonly used in other countries to reduce the impacts of particular pressures.

Supplementary measures identified in this Plan reflect an absence of legislation in some areas of water protection. For example there are few measures in existence to address the problems created by morphological changes to our waters and so it has been necessary to address this gap.

Other supplementary measures have been introduced by users of the River Basin Management System (see Section 8) reflecting their local knowledge of the pressures and their experience of efficient actions to rectify these problems. In the draft Plan these supplementary measures were identified separately, were numerous and were widely applied (following cost effectiveness analysis). It is now recognised that any actions necessary to deal with pollution already fall under existing broadly based legislation, particularly the Water Pollution Act (soon to be replaced by the Water Services Act). In this Plan the programme of measures for each water body comprises a combination of the measures previously termed supplementary and certain key elements of basic measures which, jointly, are considered to be the necessary to achieve good status. These have been termed "Priority Actions" to emphasise that it is these actions that are required to achieve the objectives of the Water Framework Directive.

The supplementary measures element of the priority actions identified by the Eastern River Basin District as being necessary in our water bodies or sub catchments are listed in Appendix B. These have been based on detailed assessments of the pressures in each locality, the monitoring data available and local knowledge of the site.

7.5 Recent Legislation Supporting the Implementation of the Programme of Measures

Significant progress has been made in recent years in putting the necessary legislation in place to support the implementation of river basin plans and programmes of measures in Ireland. The core requirements of the Water Framework Directive (2000/60/EC) were transposed under the Water Policy Regulations (SI 722 of 2003 as amended). In addition, the Surface Waters Environmental Objectives Regulations (SI 272 of 2009) and the Groundwater Environmental Objectives Regulations (SI 9 of 2010) were made to give effect to the measures needed to achieve surface water and groundwater environmental objectives established in river basin management plans. The Regulations place a legal obligation on public authorities to aim to achieve those objectives in the context of their statutory functions. For example, both sets of Regulations require the relevant authorities to review all pollutant discharge authorisations to take account of the objectives established in river basin plans. These include, inter alia

- licences issued under the Water Pollution Acts
- IPPC licences
- licences issued under the Waste Water Discharge (Authorisation) Regulations 2007
- Certificates of Authorisation under the Waste Management Regulations 2008.

Other legislation introduced in recent years, gives effect to various measures required by the Water Framework Directive. These include:

- The Waste Water Discharge (Authorisation) Regulations (SI 684 of 2007) which establish an authorisation system of local authority wastewater discharges operated by the Environmental Protection Agency.

- The Water Services Act (No. 30 of 2007) which introduces strategic planning in relation to water services provision, strengthening the administrative arrangements for planning the delivery of water services at national and local level. Water Services Strategic Plans prepared by water services authorities in accordance with Section 36 of this Act must take full account of the proper planning and sustainable development of their functional areas including, amongst other things, the provisions of river basin management plans prepared for the relevant area.

- The Bathing Water Quality Regulations (SI 79 of 2008) which transposed the new Bathing Waters Directive (2006/7/EC) establishes a new classification system for bathing water quality and require monitoring and management plans to preserve, protect and improve the quality of bathing waters.

- The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations (SI 296 of 2009) which set legally binding objectives for water quality in rivers, or parts of rivers, inhabited by freshwater pearl mussels (Margaritifera) and designated as a Special Area of Conservation to protect those species. The Regulations also require authorities to take the steps necessary to attain those objectives. They also require the Minister for

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Environment, Heritage and Local Government, subject to consultations, to prepare a programme of measures for the attainment of the ecological objectives in rivers containing protected populations; and to publish a sub-basin management plan for each relevant river.

- The Quality of Shellfish Waters Regulations 2006 (SI 268 of 2006) which set water quality requirements, provide for the designation of shellfish growing areas and also for the establishment of pollution reduction programmes for the designated waters in order to support shellfish life and growth. The Regulations were amended in 2009 (SI 55 of 2009 and SI 464 of 2009) to designate an additional fifty shellfish waters. There are now a total of sixty-four shellfish waters, nationally.

- The Good Agricultural Practice for Protection of Waters Regulations (SI 101 of 2009), which provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and include measures aimed at achieving that objective. These regulations revised and replaced previous regulations made in 2006 and 2007 and provided for strengthened enforcement provisions and for better farmyard management.

- Amendments to the Urban Waste Water Treatment Regulations 2001 (SI 48 of 2010) which designate an additional 10 sites as Sensitive Areas. This brings the total number of sites designated nationally to 43

- The European Communities (Control Of Dangerous Substances From Offshore Installations) Regulations 2009 (SI 358 of 2009) which provide for the permitting of discharges of certain dangerous substances from offshore installations into the Irish territorial sea by the Minister for Communications, Energy and Natural Resources. The Regulations also provide for the preparation of a pollution reduction programme by the Minister.

The Planning and Development Bill 2010, due to be enacted in the middle of this year, includes important new provisions in support of the Water Framework Directive. Firstly, the Bill includes a new mandatory objective requiring local authorities to integrate water management with planning policies and objectives in the preparation of their development plan. It specifically requires local authorities to ensure that the development plan supports the promotion of compliance with environmental standards and objectives established under both the Surface Waters and Groundwater Regulations. In order to ensure that both development planning and management are fully compliant with Water Framework Directive objectives, the Department of the Environment, Heritage and Local Government will issue Section 28 guidance to planning authorities on the new Planning Bill and its relationship with the implementation of the RBMPs, after enactment and not later than 2011. This will be supported by regional seminars.

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Secondly, significant new provisions are included in the Bill in relation to the regulation of quarries. The Bill requires each planning authority to identify quarries in its administrative area which, having regard to the dates of implementation of the EIA Directive and the Habitats Directive, respectively, would have required environmental impact assessment or appropriate assessment and which have not had either or both of these assessments, as appropriate. Where the quarries identified commenced operations before the establishment of the planning code in 1964, or since obtained permission and are registered, they will be required to apply for a new consent, known as a "substitute consent" with a remedial EIA. However where the quarry commenced after October 1964 and never obtained planning permission, or failed to register in 2004-2005 under Section 261 of the Act, if required to do so, it will be subject to enforcement action.

Thirdly, the Bill 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.

The legislative framework will be further enhanced to protect and improve water quality through the introduction of strengthened controls on abstractions of water and physical modifications of water bodies. A scoping study on the legislative requirements in this area is underway and work on the drafting of new WFD-compliant regulations to include a modernised system of registration and prior authorisation will commence later in 2010. These regulations will be in place at the latest by end 2012.

New legislation will be proposed to provide for prior consideration of the nature, location and cumulative effects of certain agri-development projects to ensure that the obligations under the Environmental Impact Assessment (EIA) Directive are fully met. This is in response to the November 2008 ECJ ruling that Ireland was over reliant on size thresholds to determine whether an EIA is required in relation to certain agri-developments.

The categories of agri-development include:

- projects for the restructuring of rural land holdings;

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- projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes; and
- water management projects for agriculture, including irrigation and land drainage projects.

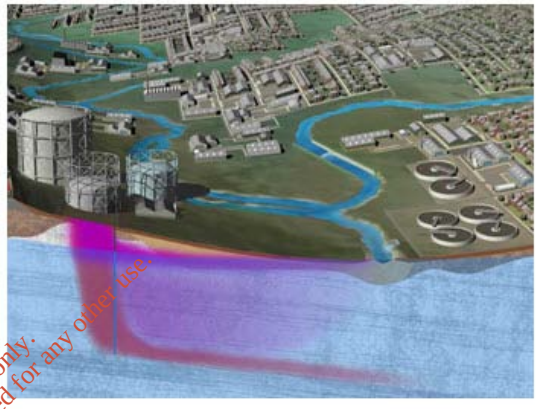
The combined result of the above legislative changes will strengthen controls on physical development activities and bring greater coherence between the planning code and the objectives of the river basin management plans.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

7.6 Planned and Potential Measures

A series of comprehensive research projects commissioned by the DEHLG were designed to advance knowledge in specific areas of each of the main pressures identified in the Water Matters report (www.erbd.ie). Several of these projects recommended additional legislation or improvements in best practice; many of these have not yet passed into legislation, but the main elements of existing legislation and how they should be strengthened, in terms of the major pressures affecting waters in the Eastern River Basin District, are presented in the following sections.

Wastewater and Industrial Discharges



Existing wastewater legislation requires treatment levels dictated by the Ireland's urban wastewater treatment regulations (S.I. 254 of 2001) and, where appropriate, higher levels of treatment to achieve standards for protected areas (for example, bacteria standards in designated bathing areas).

The recently introduced wastewater discharge licensing regulations will be supported by improved decision-support, management and monitoring systems to improve operational control of municipal facilities (S.I. 684 of 2007).

Consent systems for industrial discharges are already in place under the IPPC and Local Authority industrial licensing systems. The Waste Management, Planning and Development, Minerals Licensing and Energy Acts all have systems which also provide for controls of other point discharges such as landfills, quarries, mines and contaminated lands.

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New environmental objectives regulations, which the DEHLG plans to introduce to support the Directive, will require review of all wastewater treatment and industrial discharge licences to ensure compliance with Directive's standards in receiving waters.

Industrial and wastewater treatment upgrade works will generally be effective within the first two planning cycles (by 2021). However, where substantial impact has taken place, particularly if groundwaters have been polluted, recovery could take longer.

Urban Pressures



Pressures from urban areas are generated from a combination of point discharges and diffuse discharges into water bodies within the urban catchments. These generally add to any contaminants already discharged upstream.

Existing wastewater legislation dictates treatment levels and discharge levels. The recently introduced wastewater discharge licensing regulations (S.I. 684 of 2007) will improve operational control of both foul/combined sewer systems and wastewater treatment plants. These regulations will also result in the licensing/setting of discharge consents for every combined sewer system overflow (CSO) and waste water treatment plant discharge.

New DEHLG environmental objectives regulations will require a review of all existing or proposed wastewater treatment plant and CSO discharge licences to ensure compliance with the Directive's standards in receiving waters.

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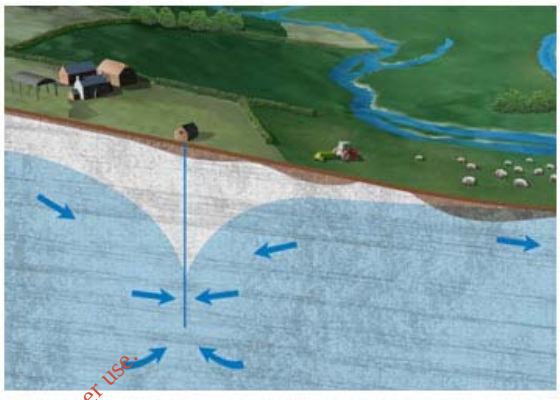
In future, higher levels of treatment may have to be put in place in key locations to achieve compliance with agreed national chemical water quality standards for key parameters other than nutrients (for example, metals).

Stormwater collection system discharges are not currently regulated. There may be a future requirement for the introduction of measures to regulate these types of discharges.

Wastewater treatment and sewer collection system upgrade works will generally be effective within the first cycle after implementation. However, in the case of any capital works associated with improved wastewater catchment management, such as the introduction of screening units on storm sewers, the phasing of such works could take many years.

Abstractions

Regulatory and statutory controls including the Water Supplies Act address abstractions to a certain extent, however updating of the provisions of this act is required. This may be supplemented in future by a requirement for licensing.



The DEHLG is proposing new measures in the form of a new regulatory regime for abstractions, initially for groundwaters and supported by decision support tools and monitoring programmes.

In addition, a national water conservation programme is being implemented under the Water Service Investment Programme to reduce leakage and support sustainable water use. Further cost recovery mechanisms are also being considered.

It will take at least one cycle for ecology to recover once measures are applied and status objectives need to allow for the system to re-naturalise. In waters designated as heavily modified because abstractions have substantially altered the physical characteristics or the flow regime, the objectives that will be set by the EPA will take account of these changes.

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Physical Modifications

There are few existing regulations but the DEHLG is proposing new regulations for freshwater and marine morphology activities which will be supported by decision support tools, monitoring programmes and further research in this area. This will control all significant activities going forward. Some physical modifications protect communities through flood schemes.



It will take at least one cycle for ecology to recover after remediation.

Dangerous Substances

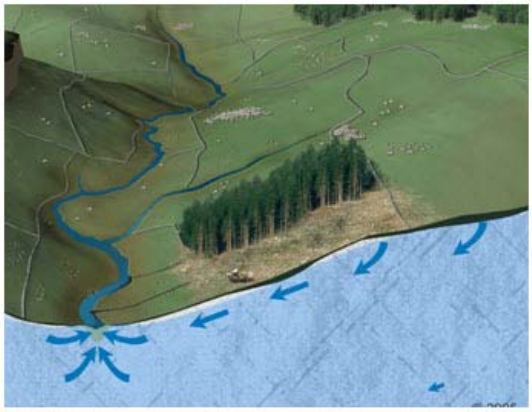
The key existing pieces of legislation for dangerous substances are plant protection product controls and improved monitoring data and information (which is being collected on the usage, loss and discharges of substances through compliance with European regulations such as Registration, Evaluation and Authorisation of Chemicals (REACH) and European Pollutant Release and Transfer Register (EPRTR).

These basic controls will have to be reviewed regularly as new concerns emerge about substances, such as hormone levels in waters.

Pollution reduction programmes are to be put in place by 2012 and will be effective for point source pollution within the first planning cycle. However, where severe point or difuse pollution problems are identified it may take more than one cycle for ecology to recover.

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Forestry



Existing forestry activities are required to operate under EU and National legislation as well as comply with codes of best practice. The requirements are regularly reviewed and updated and will be further strengthened by proposed new guidance on the management of sensitive areas, harvesting methods and restocking practices especially on peat lands. Revision of the Forestry Act is ongoing and should consider current requirements for replanting following felling irrespective of the nature of the site.

The Forest Service will review the Forestry and Water Quality Guidelines (published, July 2000) during the first cycle of the river basin management plans to ensure that they reflect the new water quality objectives and standards.

New regulations, to update the European Communities (Environmental Impact Assessment) (Amendment) Regulations, 2001 (S.I. No. 538 of 2001) will be finalised this year. The new regulations will provide for statutory EIA screening for all sub-threshold afforestation and forest road development (but excluding access to public roads which will require planning permission and EIA, if necessary). It will also transpose the Public Participation Directive insofar as it concerns forestry and will introduce penalties for unauthorised development.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

As the forest rotation is lengthy, the effect of the measures will not be immediate and it may also take up to a full cycle for ecological status to be restored.

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Agriculture



The existing measures in the Good Agricultural Practice regulations (S.I. 378 of 2006) are a legally binding code of practice detailing storage requirements and closed period manure spreading and other nutrient controls. This is supported by EPA in their water quality monitoring and by Teagasc in their Agriculture Catchments Programme which determines the degree to which the measures address the problem. It is further supported by DAFF and Local Authority farm inspections and cross compliance cross reporting arrangements.

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. Evidence suggests, however, that they will not be sufficient to fully deliver the requirements of the Water Framework Directive in some areas of the country, e.g.:

- The National monitoring programme has indicated a number of patterns of concern. Elevated nitrate concentrations have been consistently observed in the east and southeast of the country in both groundwater and surface waters (EPA, 2008 and 2009). The presence of intensive agricultural practices on free draining soils in the southeast suggests that diffuse agricultural sources are the cause of the elevated nitrate concentrations. Also, the estuaries of the south-east and south of the country, such as the Slaney, Blackwater and Bandon were found to be the most seriously eutrophic. It is suspected that the nitrogen loads from upstream catchments is a significant contributing factor as nitrogen is the main growth-limiting nutrient in seawater.

- The vulnerable nature of the karst limestone aquifers in the west (Galway, Mayo and Roscommon) may explain the elevated phosphate concentrations in groundwater. The groundwater may be contributing to eutrophication in rivers and lakes in these areas. Phosphorus deposited as organic or chemical fertiliser on shallow soils over fissured karst limestone may enter groundwater readily and may then discharge to rivers through springs. Approximately 20% of the area of Ireland consists of karstified limestone.

- Elevated phosphorus levels have also been observed in areas covered by heavy gley soils with high phosphorus content (Index 4) including parts of counties Cavan and Monaghan in the North Western IRBD, and

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- In some of the High Status Sites.

The three scenarios described above pose particular difficulties for water quality management and the agricultural sector in the areas mentioned. 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 in those areas and the need for supplementary measures will arise. The nature and extent of such measures will be considered when the findings of the Agricultural Catchments Programme start to become available in 2012. Challenges include slow natural rates of water quality recovery, which may extend up to 20 years, and certain ground conditions (hydrogeological and soil characteristics), which 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.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Other schemes, such as the voluntary Rural Environmental Protection Scheme (REPS), provide important additional actions which significantly benefit the water environment.

New measures under consideration include establishing source protection zones to protect drinking water supplies and the development of fertiliser/ manure/ soiled water/effluent/ slurry/ silage storage facilities to prevent seepage to ground or surface water.

In terms of achieving good status objectives the response to agricultural measures will improve water quality. It takes time for soil nutrient levels to reduce after lowering stock levels or fertiliser application rates. This means that the timescale to achieve the objectives could be extended beyond one cycle. Note that earlier indicators of agricultural compliance with the Nitrates Action Plan are in built to the programme (e.g. nutrient excess reduction targets to show progress whilst the physical recovery of the system's water quality takes place).

Mobile Organic Compounds (Pesticides) in Groundwater

Pesticides are used in a wide array of settings, including agriculture, forestry, transportation, (urban) amenity (including golf courses), and industry. The largest quantities are used in the agricultural sector, primarily for pest control associated with grassland management, fodder crops (e.g., maize), and arable farming (cereals and root crops). Compared to agriculture and forestry, quantities used in other sectors are small.

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Based on past and present usage data, the chemical characteristics of identified pesticides, and experiences from other countries (including the UK), a shortlist of active ingredients has been recommended for the EPA's monitoring efforts for the Directive's purposes.

Overall, risk of groundwater pollution from diffuse pesticide applications in the Eastern River Basin District is considered to be limited. The highest risks are associated with applications in areas of extreme groundwater vulnerability.

EPA is presently undertaking a comprehensive sampling programme of more than 200 wells and springs nationally; 19 of these are in the Eastern River Basin District. The data generated from this programme will be analysed by the EPA in context of the Directive's water quality objectives and status classification for all groundwater bodies in Ireland.

The issue of pesticides is not limited to groundwater alone, however, as they have been detected in surface waters on repeated occasions, with implications for surface water abstractions. Existing legislation exists to protect human and animal health, and the environment, from harmful effects of pesticides, and The Pesticide Control Service of the Department of Agriculture, Fisheries and Food is responsible for implementing regulations associated with plant protection products and biocides.

Wastewater from Unsewered Properties (including Septic Tanks)

Existing basic measures for on-site systems require prior authorisation of new installations through the planning regulations. It is anticipated that these controls will be supported by improved information and guidance on the suitability of proposed sites and stricter enforcement regimes for the inspection of installations. Permits will be required to take into account the environmental objectives of the Plan. This will include new environmental quality standards as published in European Communities Environmental Objectives (Surface Waters) Regulations 2008.

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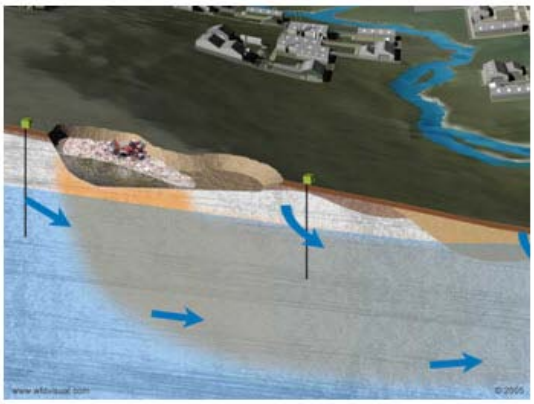
For existing installations, current controls allow for pollution enforcement actions; these powers are to be strengthened in new regulations under the Water Services Act which places a duty of care on owners of unsewered premises to ensure that their treatment systems do not cause a risk to human health or to the environment.

On-site system remediation works will generally be effective within the first cycle provided they are in place by 2012. Sludge management should be considered when assessing treatment plant capacity.

Landfills, Mines and Quarries

The Waste Management, Planning and Development, Minerals Licensing and Energy Acts all have systems providing controls for point discharges such as landfills, quarries, mines and contaminated lands. Landfills must be in compliance with the Landfill Directive and assessment should be carried out on a case-by-case basis

Further information including details of the pressures affecting the waters and the measures needed to deal with these pressures is in electronic form and can be downloaded from the website www.erbd.ie.



The waste management (certification of historic unlicensed waste disposal and recovery activity) Regulations 2008 (SI 524 of 2008) introduced a statutory requirement for local authorities to register all closed landfills, as defined under on the regulations, by the 30th June 2009. 321 sites have been registered throughout the State.

Almost all initial Tier 1 risk assessments (desk study and site walk over) have been completed for each site. More in-depth Tier 2 risk assessments (on-site monitoring) were applied to 18 sites under a pilot project initiated in October 2009, funded by the Department of Environment, Heritage and Local Government. A second pilot project to support the application of Tier 3 risk assessments (more detailed site investigations) was announced in March 2010.

All sites must be authorised by the EPA. The authorisation, called a Certificate of Authorisation (COA), will specify the appropriate management measures to applied at each site on a case-by-case basis. The EPA will be required to have regard to the environmental quality standards established by the 2009 Surface Waters regulations and the 2010 Groundwater regulations when undertaking its investigations and specifying the appropriate management measures for the purposes of these regulations.

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With regard to historic mines an inventory and risk assessment was completed in March 2010 in response to the extractive industries waste Directive (2006/21/EC). The Historic Mine Sites - Inventory and Risk Classification (HMS-IRC) Project was a joint project of the Environmental Protection Agency (EPA) and the Department of Communications, Energy and Natural Resources (DCENR).

The objectives of project were:

- to identify any significant risks to the environment, including human and animal health risks, at these historic mine sites so that these risks ultimately can be managed and the sites made safe.

- to plan for the forthcoming EU Directive 2006/21/EC on the Management of Wastes from the Extractive Industries.

This Directive requires the preparation of an inventory of closed waste facilities in the State by 1st May 2012. The inventory does not include closed stone, sand and gravel quarries, which also require management under the Directive.

A total of 32 mine sites and districts were investigated. Of these 27 mine sites/districts (encompassing 82 individual sites) were scored relative to each other for the purpose of future actions.

The project has resulted in the most comprehensive inventory of historic mines in Ireland that includes a detailed geochemical analysis. It gathers together all the existing information on historic mine sites in Ireland along with significant new information derived from site investigations that will point the way towards future rehabilitation work on mines in Ireland. Rehabilitation works will have regard to the environmental quality standards established by the 2009 Surface Waters regulations and the 2010 Groundwater regulations.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

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National Action Plan for sustainable use of Pesticides

The Minister for Agriculture, Fisheries and Food is currently developing a National Action Plan for the sustainable use of pesticides in consultation with other stakeholders. The National Action Plan is a requirement of Directive 2009/128/EC (establishing a framework for Community action to achieve the sustainable use of pesticides) and must be communicated to the Commission and to other Member States by 14 December 2012. The Directive is aimed at ensuring more sustainable use of pesticides, thereby reducing the impact of pesticides on human health and on the environment (including the aquatic environment).

The National Action Plan will include quantitative targets for reducing risks and impacts of pesticide use on the environment. The plan will address areas such as training and certification of pesticide users, distributors and advisors, calibration and certification of pesticide application equipment, and integrated pest management techniques. The plan will have a particular focus on the protection of the aquatic environment and drinking water supplies from potential impacts of pesticide use, and will specifically address the issue of safeguard zones around water abstraction points.

The list of Water Framework Directive Priority Substances is due to be reviewed by 13 January 2011. It has been proposed that sixteen substances including the pesticide cypermethrin will be taken forward for environmental quality standard derivation.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Aquaculture

Finfish aquaculture is licensed by the Department of Agriculture, Fisheries and Food under the Fisheries (Amendment) Act, 1997. Licences issued under the Act set limits on the amount of fish that may be grown as well the use of chemicals and medicines at the facility. Licences lay down requirements for monitoring, which include benthic monitoring, water quality monitoring and sea lice monitoring. Benthic monitoring is undertaken each year and includes visual examination of the seabed beneath the cages, as well as analysis for organic carbon and redox.

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The European Communities (Control of Dangerous Substances in Aquaculture) Regulations 2008) S.I. No. 466 of 2008) give effect to Directive 2006/11/EC of the European Parliament and of the Council on pollution caused by certain dangerous substances into the aquatic environment in so far as the Directive relates to the protection of waters in the marine environment from aquaculture activities.

The Regulations inter alia require that the level of discharge of an emission set by a licensing authority must be based on the relevant environmental quality standards or objectives set by the Minister for the Environment, Heritage and Local Government in accordance with the Water Framework Directive.

All licences will be reviewed to ensure compliance with the WFD objectives (as laid down in the 2009 Surface Water Regulations) for the receiving water body, taking into account the assimilative capacity of receiving waters.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Measures to address the pressures on Coastal Waters

There are many pressures on the coastal zone ranging from certain fishing practices through to recreational pressures, coastal development, dredging activities and dumping at sea, the extraction of marine aggregates and marine waste and litter. The impact of nutrient enrichment and the process of eutrophication is a major concern in the marine environment; assessment is mainly based on data collected by EPA. National Regulations to implement the EU directives on urban waste water treatment and nitrates from agricultural sources are among the most important measures in place to combat eutrophication. Ireland has applied the EU nitrates directive across its whole territory and has designated the relevant estuarine waters as 'sensitive' where required to do so under the Urban Waste Water Directive. Nutrient reduction is required at the larger urban agglomerations discharging into sensitive waters.

Work undertaken for the purpose of the WFD Article 5 risk assessments concluded that 35% of transitional water bodies and 18% of coastal water bodies were 'at risk' or 'probably at risk' of failing to meet the WFD objective of good status due to physical alteration. Morphological pressures on the marine environment include coastal defence, built structures (urbanisation and ports and harbours) and dredging.

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The proposed amendment to the legislative framework, to regulate physical modifications having an adverse impact on the water environment (Section 5.1), will, inter alia, provide a formal legal mechanism to address these pressures in the marine environment, including providing for the exemption provisions of Article 4(7) of the WFD where this is justified within the rules of the Directive. The proposed regulations will be subject to prior public consultation and will be in place at the latest by end 2012.

Additional measures will be developed to address other pressures in the context of integrated coastal zone management.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Invasive Alien Species

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.

The Department of the Environment, Heritage and Local Government and the Northern Ireland Environment Agency have funded a series of invasive species projects and are implementing the recommendations of the original report. Risk assessments have been undertaken of high risk invasive species and rapid mechanisms, increased stakeholder involvement and best practice guidelines are being developed.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Peat Extraction

Peat excavation can impact on water quality through release of nutrients (particularly phosphorus) contributing to eutrophication and through peat silt entering river systems and impacting on aquatic life. Peat harvesting is one of the pressures contributing to the loss of high quality and protected areas.

All excavation of peat in areas above 50 hectares must be licensed under the IPPC regime and private peat producers falling into this category, that are not already licensed, will be brought into the IPPC system by the EPA.

Below this threshold, planning legislation applies and the Local Government (Planning and Development) (Amendment) Regulations, 2001 reduced the planning threshold for peat extraction from 50 to 10 hectares. The 2001 EIA Regulations reduced the threshold for mandatory EIA from 50 to 30 hectares and this provision will be enforced.

It is proposed to amend the Planning and Development Act to ensure effective enforcement against ongoing unauthorised peat extraction irrespective of when the extraction may have commenced. The Department of the Environment, Heritage and Local Government has funded research into the use of remote sensing to identify and gather evidence in relation to unauthorised peat extraction.

It should be noted that, in respect of discharges from smaller private enterprises, local authorities have the option to licence activity under the Water Pollution Acts and this option should be exercised on a risk-assessment basis, in pursuit of WFD water quality objectives.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

Ecological Measures

Many of the measures described in this section address water quality as this will be a key factor in maintaining or improving ecological status. However, other measures will be required to protect and improve habitats and to protect individual species from external pressures. This Plan has identified the need for the creation of improved habitats in several water bodies (notably heavily modified waters and where abstractions are significant) and it is envisaged that such measures will become more important in subsequent plans when water quality has been improved. However, it is recommended that other ecologically based actions are fully considered, including salmon restoration plans where they have been developed.

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7.7 Plans and Programmes

Article 13(4) of the Water Framework Directive requests a register of any more detailed programmes and management plans for the river basin district dealing with particular sub catchments, sectors, issues or water types, together with a summary of their content. Up to 300 plans and programmes were identified as listed in the tables in Appendix E of this report. County/City Development Plans are of particular importance as they represent a key element of spatial planning in Ireland.

Flood Risk Management Plans

At a technical level integration with the Floods Directive will be particularly important. The Directive requires that the implementation of the Water Framework Directive and the Floods Directive are coordinated, and that certain aspects of their implementation are based on consistent information. The Report of the Flood Policy Review Group, approved by Government in 2004, set out a new policy on the management of flood risks. This included the preparation of catchment based Flood Risk Management Plans (FRMPs) that will set out the long-term strategy and a prioritised set of measures for managing flood risks, both structural and non-structural. The development of such plans is also a requirement of the Floods Directive (2007/60/EC), which came into force in November 2007, with transposition required by November 2009.

Sustainable flood management measures such as floodplain reclamation and restoration, have ancillary benefits for climate change, biodiversity and nutrient attenuation and have an important role to play in flood risk management planning.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

7.8 Targeted Research to Support the Plan

The development of the plan has identified a number of priority areas where research is needed to improve knowledge and to help identify appropriate measures to further protect and improve water quality.

The Agricultural Catchments Programme (ACP), a major research project, is intended to provide a scientific evaluation of the effectiveness of the measures in the National Action Programme under the Good Agricultural Practice Regulations 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. It will initially run for a four-year period (2008 –2011). Six agricultural catchments are being intensively managed and monitored nationally. 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. 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.

As regards other sectors and issues identified, the following projects are either underway or will be commissioned in 2010:

- The 2009 Indicators Report from the EPA noted the serious decline in the number of high quality sites over the past 20 years (see Section 2.2.1 above). A research project to identify the reasons behind this loss and to propose management strategies to address the matter will commence in 2010 with a timeline for delivery early in 2011.

- SIMBIOSYS, a major 4 year project aimed at assessing the impacts of aquaculture on marine biodiversity, commenced in April 2008 and is due for completion in 2012. The project includes the development of innovative approaches to reduce impacts.

- A scoping desk study aimed at assessing and managing exceedances of specific pollutants, priority & hazardous substances in surface waters and preventing and limiting inputs of hazardous and non-hazardous substances into groundwaters, will be included in a call for proposals in 2010.

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- A study to assess disposal options for treated wastewater from single houses in low permeability soil/subsoil settings will be included in a call for proposals in 2010.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

7.9 National Initiatives

The programme of measures identified for each water body addresses the specific problems of that water body; however, there are several issues which apply to all of the waters in the Eastern River Basin District and which are best addressed at a district or national level. These fall under broad headings and are addressed below:

- Hydrological;
- Sustainable use of pesticides;
- Public awareness;
- Climate change; and
- Alien species.

Hydrological Issues

The Protection of Drinking Water is a key issue for human health and measures to address this risk are given high priority by Local Authorities responsible for managing Drinking Water Infrastructure. The Drinking Water Safety Plans produced by Local Authorities for each water source (surface or ground) should be reviewed as required on a site by site basis. Where necessary, detailed field and/or modelling investigations should be undertaken to establish the presence, source and risks from pollutants. Site specific measures should be identified to mitigate the risks; the issues of ensuring their implementation and enforcement should also be addressed as part of the plan implementation process.

The potential for funding of measures to protect drinking water under the Rural Development Programme (Department of Community, Rural and Gaeltacht Affairs) should also be considered by the relevant agencies when addressing resources for Drinking Water protection.

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There is also a need for legislation to be revised, where appropriate, in the context of abstractions and compensation flow. In particular, the Liffey Reservoir Act (1936) and the permissions and obligations therein, should be assessed with a view to the objectives and commitments of the Water Framework Directive.



Abstractions are a significant pressure on waters in the Eastern River Basin District because of the population density in the major urban areas. Water sources in the regions are well established, but increasing demand is necessitating greater abstractions of the use of new sources. The EPA has denoted the Lusk Bog of the Ring aquifer as being of poor quantitative status because of over abstraction; it is anticipated that further monitoring will confirm improving water levels now that the abstraction rates have been reduced

More generally, increased efforts should be made to reduce water demand on a regional (or national) scale through the implementation of well established measures such as rainwater harvesting. Leakage reduction in the distribution systems is already being addressed in the Greater Dublin region and DEHLG intend to place a high emphasis on the issue.

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National Action Plan for Sustainable Use of Pesticides

New statutory provisions covering the use phase of pesticides will be agreed at EU level during 2009, as part of the EU Thematic Strategy for Pesticides.

These provisions are aimed at ensuring more sustainable use of pesticides, thereby reducing the impact of pesticides on human health and on the environment (including the aquatic environment). A key element of the Thematic Strategy is the proposed Sustainable Use Directive, which will introduce a legal requirement for Member States to draw up National Action Plans with quantitative targets for reducing risks and impacts of pesticide use on the environment. Ireland will begin drafting its National Action Plan for pesticides in the second half of 2009. The plan will address areas such as training and certification of pesticide users, distributors and advisors, calibration and certification of pesticide application equipment, and integrated pest management techniques. It will have a specific focus on the protection of surface water and groundwater.

Public Awareness Campaigns and Schemes

Public awareness campaigns and schemes on a number of issues will contribute to the achievement of environmental improvements. These should include:

- A public awareness campaign on the use and disposal of chemicals such as oils, detergents, paints and solvents. Consideration should also be given to targeting specific audiences on issues such as location of septic tanks, discharges to water and the importance of wetland sites to water quality;
- Campaigns promoting positive actions among groups such as fat removal from hotel and restaurant waste or zero phosphate policies in detergents. Such actions can then be used in promotional marketing material while providing water quality benefits; and
- An information and advice campaign targeted at farmers focused on prevention first, followed by Best Management Practices. Adequate consideration should be given not just to water and biodiversity but also soils and cultural heritage. The campaign should include issues such as:
  - Best practice in the sector in order to demonstrate that an economically viable farming operation is possible within such schemes;
  - Opportunities for agri-tourism as a way to supplement farm income while protecting the environment;
  - Information relating to implementation in areas protected for biodiversity;
  - Information on the Nation Action Plan on Sustainable Use of Pesticides; and
  - Legislation applied to agriculture and the associated requirements and issues.
- A scheme to publicly identify water bodies meeting good or high status (similar to, for example, the Tidy Towns Scheme or the RIPPLE Project in Northern Ireland) would increase a sense of local ownership; and
- A focused awareness campaign on water use and the value of water should be implemented to reduce the volumes of water used or wasted.

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Climate Change

The Water Framework Directive's approach to water management, which requires the review of river basin management plans every six years, provides an effective mechanism to prepare for and adapt to climate change.

Projected climate impacts have been summarised in a number of recent publications including "A Summary of the State of Knowledge on Climate Change Impacts for Ireland" (EPA), and "Climate Change: Meeting the Challenge of Adaptation', (Irish Academy of Engineering). These provide expert reviews of impacts and recommendations that are relevant to the management of the river basin district.

Flood and drought management both of which will assume greater importance under climate change scenarios, will need to take a sustainable, catchment-based approach. Measures to reconnect wetlands and riparian ecosystems to the river channels may have an important role to play, e.g. in terms of water storage, nutrient attenuation and can also contribute towards providing habitat for native species.

Studies such as those referred to above have highlighted the likely impacts of climate change. As part of the process of developing a national response to the impacts of climate change the EPA will shortly be commencing a project which will bring together all the available information on vulnerabilities on a sector by sector basis. It is anticipated that this material will be available by the end of 2010; this will assist in assessing the risk of climate change and in prioritising adaptive actions.

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On foot of a commitment contained in the National Climate Change Strategy, the Department of Environment, Heritage and Local Government is currently in the process of developing a National Climate Change Adaptation Framework. This work is proceeding in parallel with development of the Climate Change Bill which will contain specific provisions in relation to adaptation at national, sectoral and local levels.

The purpose of the Bill is to provide a statutory basis for key national policies and measures on climate change, including national emission reduction targets for 2020 and 2050 and a Climate Change Committee to advise Government. The Bill will provide the statutory framework within which national policy on transition to a low-carbon, climate resilient and environmentally sustainable society can be pursued as a national priority.

The Heads of Bill and the Adaptation Framework will be published as soon as possible.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

There is a need to consider the possible effects of climate change when selecting and implementing measures. We highlight the need to integrate river basin management planning with land use planning, climate change and wider environmental issues, all of which are key issues for overall implementation of the Directive.

The Advisory Council received a presentation from a climate change specialist at the National University of Ireland in Maynooth and it is clear that the impacts on rainfall, rivers and lakes, due to climate change, could be profound.



In the Eastern River Basin District it is predicted that less rain will fall during the year, but that more intense storms will be experienced. Year on year the conditions will vary significantly, and from catchment to catchment, and it is not yet clear what conditions should be accommodated.

Heavier winter rain and summer storms may cause more flash flooding, causing an increase in diffuse pollution loads to our waters from soil run-off or the overflow from CSOs and raising demand for flood controls. Summer droughts are more likely and there may be a reduction in drinking water supplies. Temperature changes might give invasive alien species a competitive advantage in our waters, thus affecting biodiversity.

The Strategic Environmental Assessment also assesses the impacts that the action plan could have on the wider environment, including climate.

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A critical impact of climate change will be the likely changes to habitats and the flow conditions in rivers and lakes. The Eastern River Basin District has been undertaking research work on the effects of abstractions on river and lake ecology to develop an understanding of the relationship between hydrology, flow, depth and habitats for key species. Potential impacts on water body status are detailed in Table 7.8.

Table 7.8: Potential Climate Change Impacts on Status

Parameters	Potential Impacts
Physicochemical (Water Quality)	Changes in water temperature and dissolved oxygen. Decreased dilution capacity of receiving waters due to lower flows. Increased erosion and diffuse pollution. More frequent spilling of combined sewer outflows. Photoactivation of toxicants. Exceedence of water quality standards.
Biological	Changing metabolic rates of organisms. Changing ecosystem productivity and biodiversity. Fish migration patterns and dispersal corridors. Increased eutrophication and prevalence of algal blooms. Changes in aquatic fauna and flora at reference sites. Changes in species assemblages in designated areas.
Hydro-morphological	Changing river flows and sea levels can lead to erosion or sedimentation. Indirect impacts from land-use practices and agriculture. Hydrological connectivity of slopes, channels and coastal zones. Diffuse and point sources of sediment. Long-term bed load and channel change. Geomorphological processes creating dynamic/diverse habitats.

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The strategy of this Plan is to deal with the major problems affecting water quality and ecology in the Eastern River Basin District through widespread implementation of existing legislation and supporting supplementary measures. The effect of these measures will be monitored over time so that they can be evaluated. At the same time more climatic data will become available and predictions of the future climate will become more reliable.

Member State Water Directors recommend making "climate checks" of the programmes of measures in the first river basin management plans. These climate checks should identify the measures best suited to strengthening river basins' capacities to adapt to climate change.

Further work to incorporate climate change in river basin management planning will be needed when the management plans are revised in 2015 and 2021. Measures will need to be resilient to climate change impacts. This will be especially important for expensive and long-term investments such as large infrastructure projects. Planning for droughts, water scarcity and flood prevention will also become increasingly crucial.

Continuous monitoring of resources and procedures will be required to achieve the objectives of this River Basin Management Plan. This will need to take account of additional climate monitoring and research results as they become available.

Subsequent river basin management cycles will address this topic in more detail, including:

- More focussed monitoring;
- Target water body 'type' and ecological status reference conditions for certain water bodies might need to be reconsidered;
- It may be possible to 'climate-proof' the Programme of Measures; and
- Contributions may be considered that contribute to global mitigation.

In accordance with the Guidance Document "Water Framework Directive – Draft River Basin Management Plans, Adapting the Plans to Climate Change", measures specified in the Plan take account of potential impacts of Climate Change through the following requirements in the Directives (Tables 7.9 and 7.10):

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Table 7.9: Climate Change in Basic Directives

EU Directive	Climate Change Adaptation
The Bathing Water Directive (2006/7/EC) (76/160/EEC repealed)	Actions should allow for sea level rise and increasing storm surge, including potential washout of pollutants in coastal areas.
The Birds Directive (79/409/EEC)	Actions may be required to replace habitat lost through sea level rise or increased flooding
The Drinking Water Directive (98/83/EC) (80/778/EEC repealed 25/12/2003)	Plans should allow for reduced summer low flows and for increasing flood flows in source contribution zones.
The Major Accidents (Seveso) Directive (96/82/EC) extended by Directive 2003/105/EC	Plans should allow for increasing temperatures.
The Environmental Impact Assessment Directive (85/337/EEC) as amended by Directive 97/11/EC	Projects should assess impacts in the context of climate change.
The Sewage Sludge Directive (86/278/EEC)	Plans should consider potential climate change adaptation issues such as increasing temperature and rainstorms.
The Urban Wastewater Treatment Directive (91/271/EEC)	Consider potential for reduced assimilative capacity in rivers in summer and for changing estuarine flows.
The Plant Protection Products Directive (91/414/EEC)	None
The Nitrates Directive (91/676/EEC)	Actions should allow for potential washout of pollutants to surface waters during increasing rainstorms and for changes in groundwater contribution to surface waters.
The Habitats Directive (92/43/EEC)	Monitor changes in hydrological pressures and review and adjust abstractions and other pressures which reduce groundwater levels in protected areas for groundwater dependent and/or supported habitats and species. Actions to reduce erosion and sedimentation pressures should be able to meet increased risk of extreme events. Consider potential for habitat creation in managed retreat from rising sea level
The Integrated Pollution Prevention Control Directive (96/61/EC)	None

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Table 7.10: Climate Change in Other Basic Measures

Other Basic Measure	Climate Change Adaptation
Cost recovery for water use	Increasing efficiency of use of water will be a priority in the context of reducing river low flows in summer, supported by metering, leakage control and potential water harvesting.
Measures to promote efficient and sustainable water use	Increasing efficiency of use of water will be a priority in the context of reducing river low flows in summer, supported by metering, leakage control and potential water harvesting.
Protection of drinking water sources	Plans should allow for reduced summer low flows and for increasing flood flows in source contribution zones.
Control of abstraction and impoundment	Controls should allow for reduced summer low flows and for increased temperatures. Instream impoundments will need to allow for increasing flood flows.
Authorisation of discharges to groundwater	Point source emission limits should allow for changes in temperature.
Control of point source discharges	Authorisation should allow for reduced summer low flows and for increasing flood flows. The range of water table levels may increase in the context of increased winter rainfall and reduced summer rainfall.
Control of diffuse point discharges	Authorisation should allow for reduced summer low flows and for increasing flood flows. The range of water table levels may increase in the context of increased winter rainfall and reduced summer rainfall.
Control of priority substances	None
Controls on physical modifications of surface waters	Authorisation system should require that modifications are adaptable to climate change.
Controls on other activities impacting on water status	None
Prevention or reduction of the impact of accidental pollution incidents	Plans should allow for increasing temperatures and increasing rainstorms and flooding.

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In addition to the basic and supplementary measures the Western River Basin District Project has developed measures specifically to protect high status and protected areas. As with the basic measures, these will be mandatory for all such waters.

Climate change adaptation of measures relating to high status sites and protected areas for water dependent habitats and species under the Habitats and Birds Directives will need to address (Table 7.11):

- Reduced habitat fragmentation and protect and restore areas of floodplains and wetlands;
- Changes to ground and surface water flow regime;
- Changes to erosion and sedimentation pressures;
- Changes to diffuse and point source nutrient loadings; and
- Avoidance of adverse impacts in forward planning.

Similar measures are likely where status is downgraded due to water dependent habitats and species being at unfavourable conservation status under the Habitats Directive. Sub catchment plans should be adaptable to allow for climate change induced changes in pressures

Table 7.11: Measures for High Status Waters and Protected Areas developed by the EPA (courtesy of the Western River Basin District Project)

Action	Climate Change Element of Measure
Continued monitoring and survey by NPWS to confirm conservation status	Monitoring will address impact of changes to water regime and water dependent habitats and species
Identify alternative solutions where existing abstractions are implicated in causing unfavourable conservation status	Monitoring will address impact of changes to water regime and water dependent habitats and species
Use existing analyses of risks and pressures in relevant catchments to identify the suite of WFD Measures that will contribute to resolving unfavourable conservation status for individual SACs. Include examination of ortho-photography in the review. LA Biodiversity Officers should be involved. Consult with NPWS	Will address impact of changes to water regime and water dependent habitats and species
Consult with NPWS on identifying any additional risks and sensitivities, and any additional Measures relevant to individual sites/features at unfavourable conservation status, including investigative/operational monitoring needs	Avoidance of adverse impacts in forward planning.
Document plans specific to each SAC unfavourable conservation status issue, (with reference to Sections 4 and 5 of the guidance, submit to and implement in consultation with NPWS	Will address impact of changes to water regime and water dependent habitats and species

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Action	Climate Change Element of Measure
Use sensitivities of water dependent habitats and species to water quality and hydrological pressures as set out in Sections 3 and 5 to guide decision making	Avoidance of adverse impacts in forward planning
Update the Register of Protected Areas in respect of SACs designated under the Habitats Directive for Annex 1 listed water dependent habitats and Annex 2 species. (SAC Water Dependency database field WD H S)	Will address impact of changes to water regime and water dependent habitats and species
It is recommended that a central Register of relevant databases is established, to include reference to all Water Framework Directive – relevant databases developed and maintained by all relevant agencies including NPWS, EPA, GSI, Inland Fisheries Ireland, Marine Institute, Forest Service, Local Authorities	Contribute to the avoidance of adverse impacts in forward planning
Nutrient and silt loading issues should be addressed with regard to the ecological requirements of individual Annex listed habitats and species present in individual Protected Areas, with provision for site-specific variation in soils and underlying geology, slope, livestock type, and seasonal restrictions on grazing and/or mowing regimes	Will address impact of changes to water regime and water dependent habitats and species

Invasive Species

Alien species are non-indigenous invasive flora and fauna, which threaten the native ecology. Invasive alien species negatively impact Irish biodiversity through competition, herbivory, predation, habitat alteration and introduction of parasites or pathogens and thus pose a risk to the genetic integrity of our native species. Terrestrial and aquatic habitats can be negatively affected, resulting in severe damage to conservation and economic interests, such as agriculture, fisheries, forestry and various recreational activities.

Three particular species of concern are present in the Eastern River Basin District: Japanese Knotweed (*Fallopia japonica*), Giant Knotweed (*Fallopia sachalinensis*) and Himalayan Balsam (*Impatiens glandulifera*). Japanese Knotweed out-competes local species, such as sea grasses and kelp, for space and light.

Preventing the spread of alien species and new introductions of alien species is an issue of shared responsibility and requires the involvement of government agencies, academia, and private and voluntary sectors. The Invasive Species Ireland project began in 2006 and aims to reduce the impact and threats from invasive species on the island of Ireland and is a joint initiative between the National Parks and Wildlife Service and Northern Ireland Environment Agency.

In Ireland the most prominent of the negative impacts appears to be direct competition with native biota, whilst alteration to habitats and the influence of parasites and pathogens are also important. Habitats under threat include freshwater river systems, coastal floodplain, coastal salt marsh and coastal sand dunes.

Several departments and agencies have responsibility for managing aspects of invasive species and so several different legislative instruments are relevant (Table 7.12). Ireland also has international obligations to address invasive species issues, principally the Convention on Biological Diversity, International Plant Protection Convention, Bern Convention and the Habitats Directive. Key existing obligations and legislation include:

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Table 7.12: Key Obligations and Legislation for Alien Species

European legislation relevant to non-native species		
Wildlife Trade Regulation: Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein Commission Regulation (EC) No 939/97 laying down detailed rules concerning the implementation of Council Regulation (EC) No 338/97 Commission Regulation (EC) NO191/2001 suspending the introduction into the Community of specimens of certain species of wild fauna and flora	1997	Trade-related agreements/Biodiversity conservation
Habitats Directive: Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora	1992	Biodiversity conservation
Birds Directive: Council Directive 79/409/EEC on the conservation of wild birds	1979	Biodiversity conservation
Environmental Impact Assessment Directive Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment Council Directive 97/11/EC amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment	1985 1997	Environmental protection
Forest Reproductive Material Directive Council Directive 1999/105/EC on the marketing of forest reproductive material	1999	Phytosanitary measures & biodiversity conservation
Plant Health Directive Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the community	2000	Phytosanitary measures & biodiversity conservation
Plant Protection Products Directive Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market	1991	Phytosanitary measures & biodiversity conservation

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European legislation relevant to non-native species		
Fish Health Directive Council Directive 91/67/EEC concerning the animal health conditions governing the placing on the market of aquaculture animals and products	1991	Sanitary measures
Animal Health Directives Council Directive 90/425/EEC concerning veterinary and zootechnical checks applicable in intra-Community trade in certain live animals and products with a view to the completion of the internal market.	1990	Sanitary measures
Domestic legislation relevant to non-native species		
Wildlife Act Wildlife (Amendment) Act	1976 2000	Biodiversity conservation
Environmental Protection Agency Act	1992	Biodiversity conservation
Heritage Act	1995	Biodiversity conservation
Marketing of ornamental plant propagating material (Amended 1999)	1995	Phytosanitary measures
Marketing of Forest Reproductive Material Regulations S.I. 2002/618	2002	Forestry
The Foot and Mouth Disease (Hay, Straw and Peat Moss Litter) Order	2001	Sanitary Measures
Forestry Act	1988	Forestry
The Fisheries Act	1980	Fisheries
Dumping at Sea Act	1996	Marine
International instruments concerning non-native species relevant to Ireland		
Convention on Biological Diversity (CBD)	1993	Biodiversity Conservation
Bern Convention on conservation of European wildlife and Natural Habitats.	1982	Biodiversity Conservation
Bonn Convention on the Conservation of Migratory Species of Wild Animals	1983	Biodiversity Conservation
IUCN Guidelines for the prevention of Biodiversity loss caused by alien invasive species	2000	Biodiversity Conservation
Convention on Wetlands ofInternational importance especially as Waterfowl Habitat (Ramsar Convention)	1975	Biodiversity Conservation
Agenda 21	1992	Biodiversity Conservation
Ministerial Conference for the Protection of Forest in Europe	1993	Biodiversity Conservation
International Maritime Organisation (IMO) Guidelines for the control and management of ships' ballast water to minimise the transfer of harmful aquatic organisms and pathogens	1997	Aquatic environment
International Council for Exploration of the Sea (ICES) Code of Practice on the Introductions and Transfers of Marine Organisms, 1994	1994	Aquatic environment
United Nations Convention on the Law of the Sea (UNCLOS)	1994	Aquatic environment
Food and Agriculture Organisation (FAO) Code of Conduct for Responsible Fisheries	1995	Phytosanitary measures
International Plant Protection Convention (IPPC)	1951	Phytosanitary measures
Food and Agriculture Organisation (FAO) Code for the Import and Release of Exotic Biological Control Agents.	1996	Phytosanitary measures
Convention on International Trade in Endangered species of wild fauna and flora (CITES)	1975	Trade-related agreements
WTO Agreement on Sanitary and Phytosanitary measures (SPS Agreement)	1995	Trade-related agreements
International Civil Aviation Organisation (ICAO) Resolution on Preventing the Introduction of Invasive Alien Species	1998	Transport

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The National Invasive Species Database project has compiled a Priority Species List of particular concern for both non-plant and plant species (Table 7.13 and Table 7.14).

Table 7.13: Priority List for Non-plant Species

Taxon name	Common name	Habitat
Ameiurus nebulosus	Brown Bullhead Catfish	Freshwater
Anguillicola crassus	none	Parasitic
Arthurdendyus triangulatus	New Zealand Flatworm	Terrestrial
Balanus improvisus	none	Marine
Branta canadensis	Canada Goose	Terrestrial
Cervus nippon	Sika Deer	Terrestrial
Crangonyx pseudogracilis	Freshwater Shrimp	Freshwater
Crassostrea gigas	Pacific Oyster	Marine
Cyprinus carpio	Carp ISI	Freshwater
Didemnum species	none ISI	Marine
Dreissena polymorpha	Zebra Mussel ISI	Freshwater
Eriocheir sinensis	Chinese Mitten Crab ISI	Freshwater
Gammarus pulex	Freshwater Shrimp	Freshwater
Gammarus tigrinus	Freshwater Shrimp	Freshwater
Lepus europeaus	Brown Hare	Terrestrial
Leuciscus cephalus	Chub	Freshwater
Leuciscus leuciscus	Dace	Freshwater
Mustela furo	Feral Ferret	Terrestrial
Mustela vison	American Mink	Terrestrial
Oxyura jamaicensis	Ruddy Duck	Terrestrial
Perca fluviatilis	Perch	Freshwater
Physella acuta	none	Terrestrial
Physella gyrina	Tadpole Physa	Terrestrial

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Taxon name	Common name	Habitat
Rattus norvegicus	Brown Rat	Terrestrial
Rattus rattus	Ship Rat	Terrestrial
Rutilus rutilus	Roach	Freshwater
Sciurus carolinensis	Grey Squirrel	Terrestrial

Table 7.14: Priority List for Plant Species

Taxon name	Common name	Habitat
Acaena anserinifolia	Bronze Pirri-pirri-bur	Terrestrial
Acaena novae-zelandiae	Biddy Biddy/Pirri-pirri-bur	Terrestrial
Acaena ovaliflolia	Two-Spined Acaena	Terrestrial
Acer pseudoplatanus	Sycamore	Terrestrial
Aponogeton distachyos	Cape-pondweed	Freshwater
Azolla filiculoides	Water Fern	Freshwater
Carpobrotus edulis	Hottentot-fig	Freshwater
Clematis vitalba	Traveller's Joy	Terrestrial
Cornus sericea	Red Osier Dogwood	Terrestrial
Cotoneaster horizontalis	Wall Cotoneaster	Terrestrial
Cotoneaster integrifolius	Entire-leaved Cotoneaster	Terrestrial
Crassula helmsii	New Zealand Pigmyweed	Freshwater
Crocosmia x crocosmiiflora	Montbretia	Terrestrial
Cyperus eragrostis	Pale Galingale	Terrestrial
Egeria densa	South American Waterweed	Freshwater
Elodea canadensis	Canadian Waterweed	Freshwater
Elodea nuttallii	Nuttall's Waterweed	Freshwater
Gaultheria mucronata	Prickly Heath	Terrestrial
Gaultheria shallon	Shallon	Terrestrial
Fallopia japonica	Japanese Knotweed	Terrestrial
Fallopia sachalinensis	Giant Knotweed	Terrestrial
Glyceria maxima	Reed Sweet-grass	Terrestrial
Gunnera tinctoria	Giant-rhubarb	Terrestrial
Heracleum mantegazzianum	Giant Hogweed	Terrestrial
Hippophae rhamnoides	Sea Buckthorn	Terrestrial
Hottonia palustris	Water-violet	Freshwater
Hyacinthoides hispanica	Spanish Bluebell	Terrestrial
Hyacinthoides non-scripta xhispanica	Hybrid	Terrestrial
Hydrocotyle ranunculoides	Floating Pennywort	Freshwater
Impatiens glandulifera	Himalayan Balsam	Terrestrial
Juncus planifolius	Broad-leaved Rush	Terrestrial
Lagarosiphon major	Curly Waterweed	Freshwater
Lagarus ovatus	Hare's-tail	Terrestrial
Lemna minuta	Least Duckweed	Freshwater
Libertia formosa	Chilean Iris	Terrestrial
Lonicera japonica	Japanese Honeysuckle	Terrestrial
Lupinus polyphyllus	Garden Lupin	Terrestrial
Lysichiton americanus	Yellow Skunk-cabbage	Freshwater
Mycelis muralis	Wall Lettuce	Terrestrial
Myriophyllum aquaticum	Parrot's Feather	Freshwater
Petasites fragrans	Water Heliotrope	Terrestrial
Picea sitchensis	Sitka Spruce	Terrestrial
Pinus contorta	Lodgepole Pine	Terrestrial
Phormium tenax	New Zealand Flax	Terrestrial
Prunus laurocerasus	Cherry-laurel	Terrestrial
Rhododendron ponticum	Rhododendron	Terrestrial
Rosa rugosa	Japanese Rose	Terrestrial
Rubus spectabilis	Salmonberry	Terrestrial
Sagittaria rigida	Canadian Arrowhead	Freshwater
Sarracenia purpurea	Pitcherplant	Terrestrial
Sargassum muticum	Wire Weed	Marine
Sasa palmata	Broad-leaved Bamboo	Terrestrial
Sedum album	White Stonecrop	Terrestrial
Senecio cineraria	Silver Ragwort	Terrestrial
Sisyrinchium californicum	Yellow-eyed-grass	Terrestrial
Spartina anglica	Common Cord-grass	Terrestrial
Stratiotes aloides	Water-soldier	Terrestrial
Symphoricarpos albus	Snowberry	Terrestrial
Nymphoides peltata	Fringed Water-lily	Freshwater

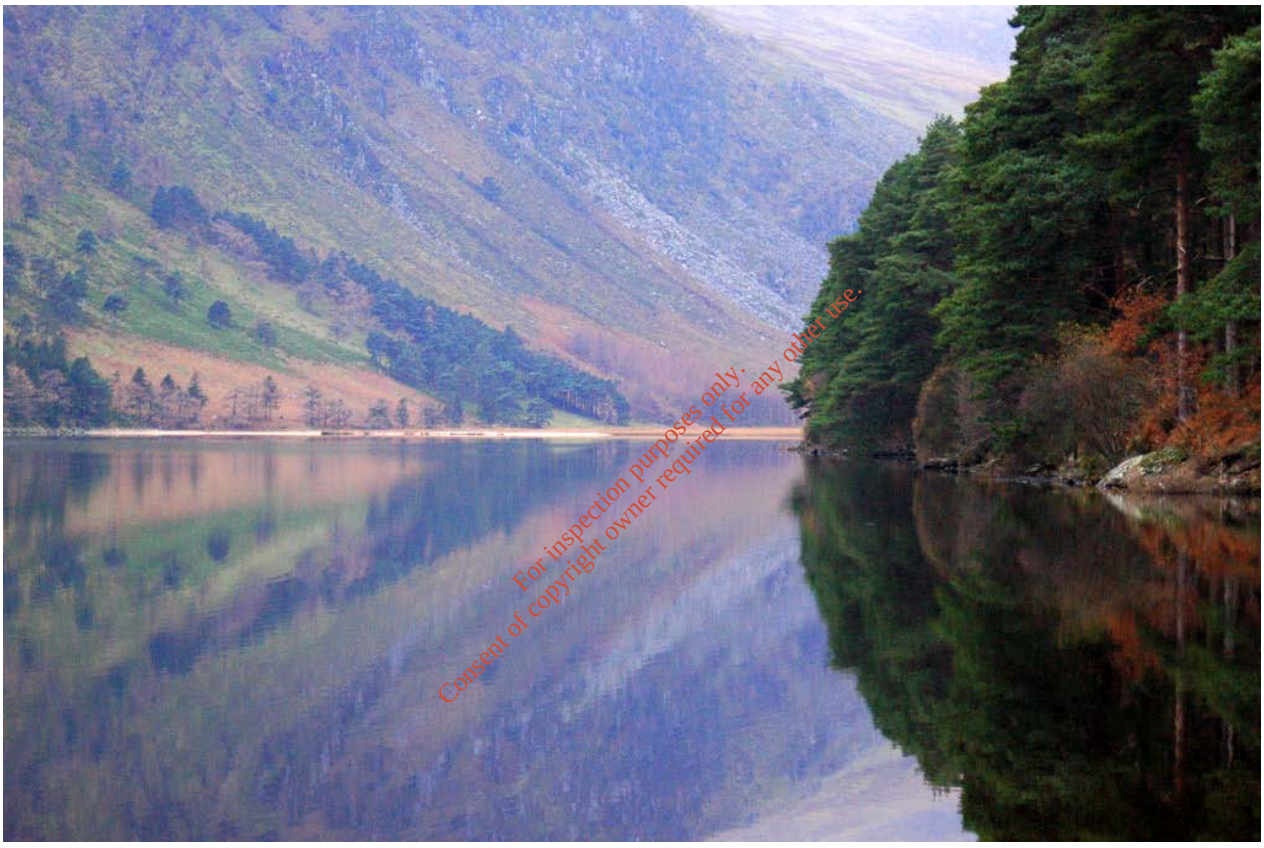
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This Plan recommends that to minimise negative impacts from invasive species:

- Best Practice Management Guidelines for Invasive Species should be followed where appropriate; and
- Invasive Species Action Plans should be followed where appropriate.

In parallel with the concern about invasive species and the implementation of Action Plans, biosecurity plans should be put in place where necessary to prevent negative impacts to fish populations and their habitats including the transmission of diseases or parasites.



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8 River Basin Management Planning

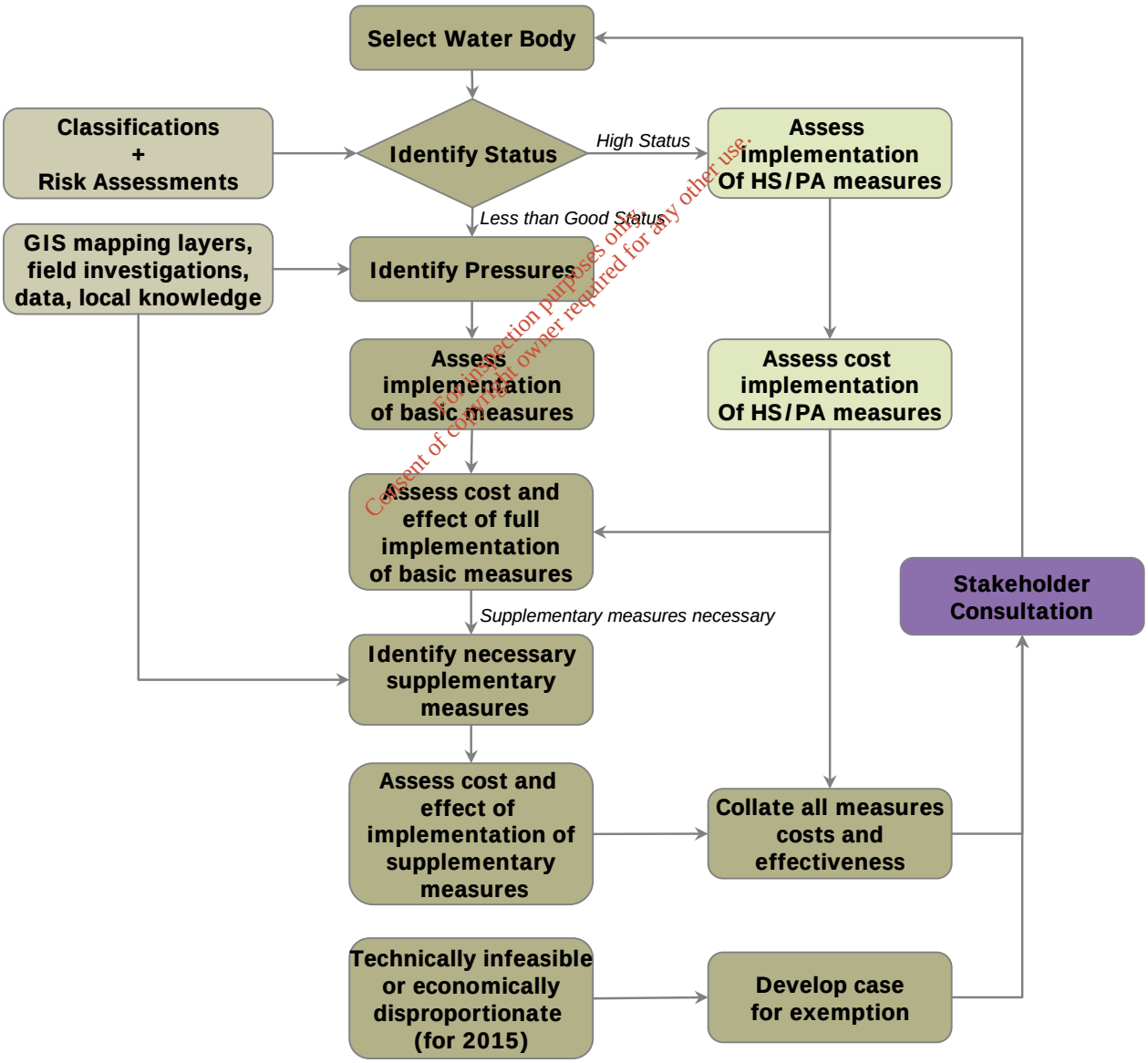
A specific programme of measures is required for each of the water bodies in the Eastern River Basin District. This is an enormous task made more complex by the number of waters (488), the differences in the pressures affecting them and the interrelationships between waters throughout each catchment.

In the Eastern River Basin District the philosophy of catchment management has been rigorously adopted. Surface waters have been grouped into sub catchments (the term "water management unit" is used to describe groups of water bodies), where the waters have similar characteristics and pressures. Transitional waters, coastal and groundwaters are treated as individual units as these can surface cross catchment boundaries. Lakes are also treated individually, but relationships with their surface catchments are considered.

For each sub-catchment or water body, a comprehensive process has been followed which reflects the overall structure of the Directive: understanding the pressures affecting the waters; evaluating their relative importance; identifying the measures that will address the specific problems; and assessing the cost and effectiveness of each measure. In this way a detailed profile and plan for each of our waters has been developed.

The approach which is being used for measures selection is outlined in Figure 8.1

Figure 8.1: Approach for Measures Selection



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The ecological objectives of waters that are artificial or which have been physically modified are different from those associated with waters in their natural condition, but the process of measures selection outlined in the figure remains unchanged, so that all of our waters are treated in a coherent and consistent manner.



It should be recognised that this approach to management of our waters has not been attempted before in Ireland and that the scale of the work is immense. In addition, there are important items of information and data that are not yet available and so this Plan is based on all of the available information and supplemented, where needed, with expert judgment.

The Eastern River Basin District has developed a River Basin Management System (RBMS) to help facilitate the process of selecting measures. The RBMS is an International Water Association award-winning information management system specifically developed by Dublin City Council/CDM which serves a variety of purposes including facilitating a structured approach to the selection of measures. It leads the user through a series of steps culminating in an implementation plan for the measures. All available data and information describing the waters and pressures in the District together with potential measures are available within the system. The user is required to undertake the sequence of tasks, shown in Table 8.1, for each sub-catchment or water body:

Table 8.1: River Basin Management System Tasks

Task	Purpose	Data Sets Available	Output
1. Monitoring Data	Import and analysis of monitoring data from local authorities and EDEN	Surveillance, operational and investigative monitoring data	Up to date information available for view and analysis
2. Updated Risk Assessment	Examine available monitoring and survey data, compare them to allowable limits and ascertain what problems (risks) occur in each sub-catchment or water body	2004 Characterisation risk assessment Monitoring data GIS with all point and diffuse pollutant sources, land use, etc. EPA Status Classification Local knowledge	Location and extent of risks to meeting the requirements of the Water Framework Directive
3. Pressure Identification	Identify which pressures are causing problems and focus on the key pressures in each sub-catchment or water body	2004 Characterisation risk assessment Monitoring data GIS data sets Updated risk assessment Local knowledge	Identification and ranking of unique set of pressures affecting each sub-catchment or water body
4. Measures Selection	Selection of different potential sets of measures to address the pressures in each sub-catchment and water body	Updated risk assessment GIS data sets Capital cost budgets Local knowledge Basic measures Possible supplementary measures.	Alternative sets of measures with full costs and effective estimates
5. Actions	Definition of an implementation plan for the selected programme of measures	The preferred programme of measures Resource availability.	WFD Implementation plan

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The RBMS offers a number of key benefits:

- Imposing a consistent process for each water body;
- Providing a facility to record the assumptions and decisions that have been made for each water body;
- Transparency of the decision making process (which is important for stakeholder involvement);
- Providing a platform (and requirement) for estimates of costs and effectiveness of individual measures;
- A mapping environment to enable users to readily examine pressures, land uses and monitoring data, in any water body or sub-catchment of the district; and
- Easily updated to evaluate alternative programmes of measures.

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8.1 Public Access

This Plan is a substantial document and to support this there is a great deal of detail which is presented in electronic databases. The Plan aims to provide an overview of the process and objectives of the WFD; describe the status of the water bodies in the District; the pressures affecting them; and what measures are required to improve and protect them.

More supporting information and data are available in 4 main locations:

- ERBD's website at www.erbd.ie;
- EPA's WFD website at www.wfdireland.ie;
- River Basin Management System (via Local Authority offices); and
- Electronic PowerPoint slides (at www.erbd.ie).

ERBD Web Site

www.erbd.ie provides an overview of the Directive and the ERBD project as well as public access to all of the key WFD deliverables and records of the Advisory Council and Technical Council meetings.

EPA's Web Site

www.wfdireland.ie provides access to all supporting documentation and studies undertaken in Ireland as part of the WFD implementation since 2002 (the most relevant of these are listed in the bibliography at the end of this Plan).

River Basin Management System

The RBMS provides access to all data, assumptions, measures, how and why measures have been selected and the cost and effective estimates of those measures for all water bodies in the ERBD. A public access area in the system is available via each Local Authority; this offers a map based facility for users to:

1. Select waters of interest;
2. Display the objectives and status of that water;
3. Display the measures prescribed; and
4. Print reports.

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An RBMS user guide is available on the ERBD website (www.erbd.ie) and provides an overview of the process encapsulated in the RBMS and step by step guidance through its various elements. A summary is provided below.

Note: All screen shots are for illustrative purposes only. All information is available through accessing the RBMS at Local Authority offices.

Home screen

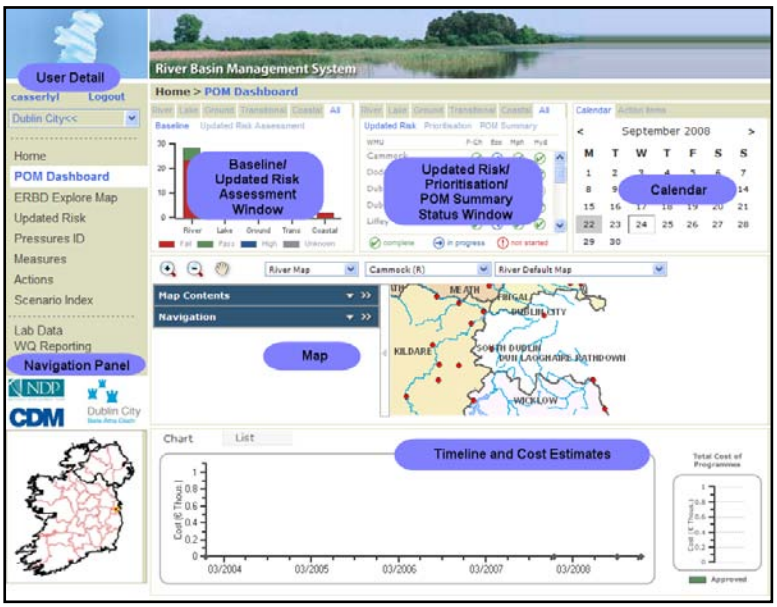
Key elements of background information are available on the system, including the Directive itself, SI 722, responsible authorities and timescales.



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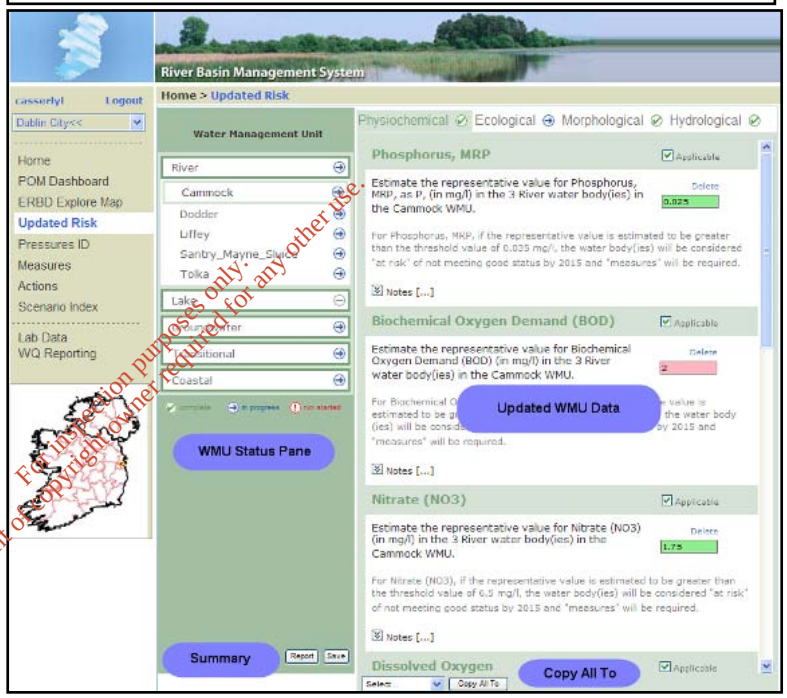
Overview screen

The first active screen is a Dashboard which gives summary information. Each window within the screen can be interrogated to provide more detail. By using the navigation links to the left of the screen the user is required to step through a set process for each water body in the Eastern River Basin District by taking a number of sequential steps.



Updated Risk Assessment

This requires users to assess the condition of each water body by comparing recent/best known data to the EPA's environmental quality standards. The values used must be supplemented by an explanation in the "Notes" field for each parameter. This process is required for four different pressure categories: Physicochemical, Ecological, Morphological and Hydrological and helps develop an understanding of what pressures are detrimentally affecting each water body.



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Identification of Key Pressures

For each water body the user estimates the relative importance of each pressure in terms of its effect on that water body. This estimate is supported by explanatory comments in the "Notes" field. The purpose of this step is to provide focus to measures selection.

Both the risk assessment and pressures identification benefit from the use of the GIS facility, which provides all known data and information about the ERBD.

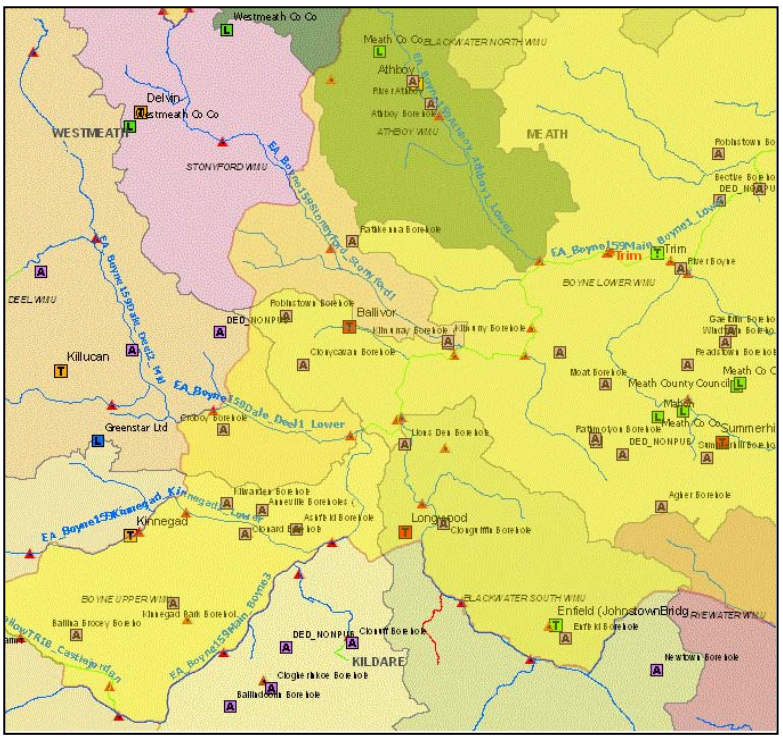


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Measures Selection

Measures are shown for each type of pressure grouped into 4 categories (See Section 7):

- Basic (existing legislation);
- Guidance/guidelines;
- Proposed (based on DEHLG research projects); and
- Supplementary (Supporting key actions).

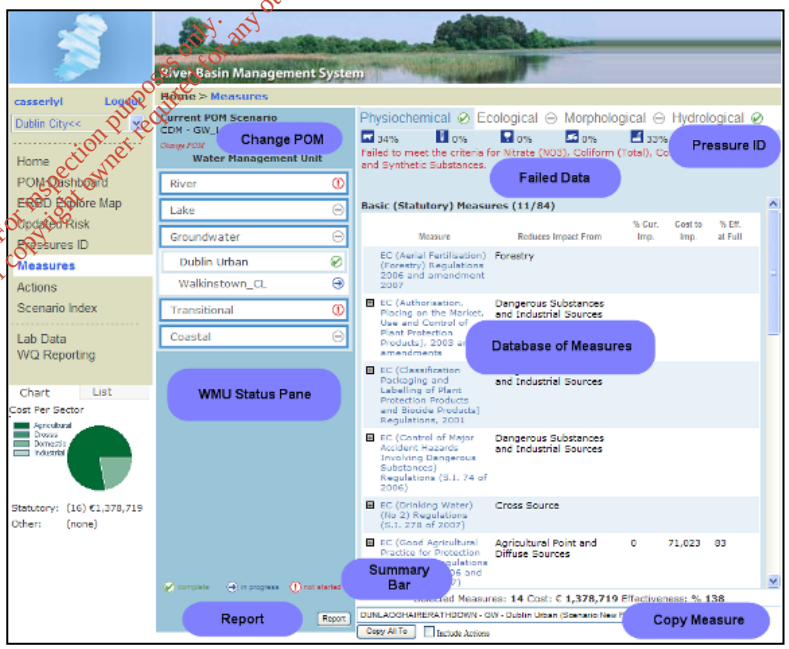


The user selects measures that are considered essential to address the problems identified in the previous steps. For each selected measure three estimates are required:

- The degree to which the measure is currently implemented;
- The cost of implementing the measure fully; and
- The proportion of the gap between the present and good status that the measure will remedy.

Further screens allow:

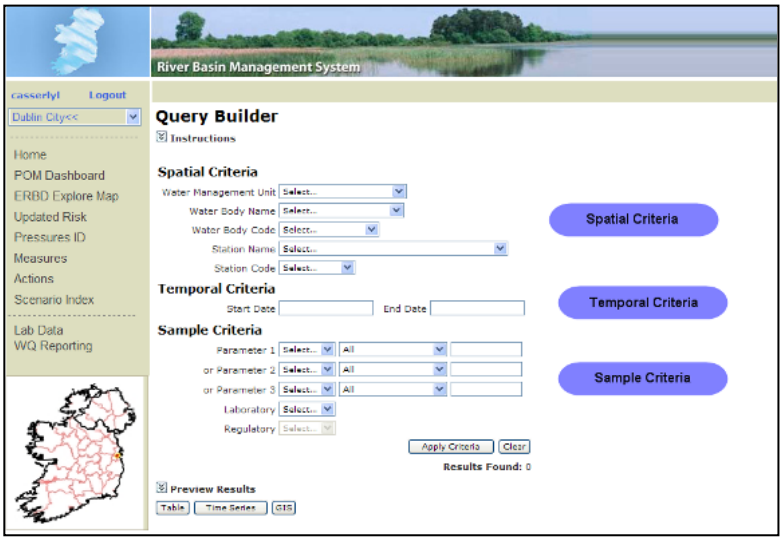
- Planning of implementation of the measures, including scheduling, refined cost estimation and allocating responsibilities. This is envisaged as the next stage in the WFD implementation process and when a clear understanding of criteria for selecting priorities, budgets and human resources in each agency are available;
- Various elements of information can be reported based on several filtering criteria; and



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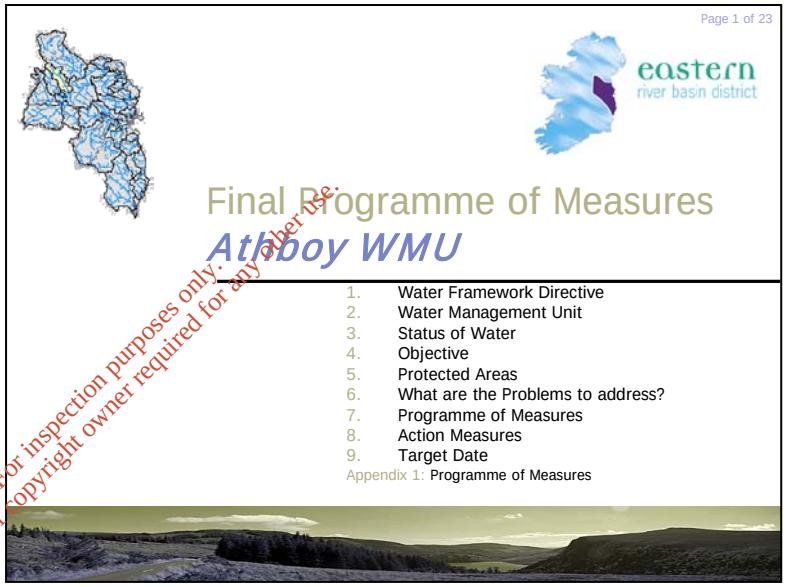
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- Monitoring data can be accessed from the EDEN database; this is important during the risk assessment process, identifying pressures and tracking improvements and the benefits of measures in future years. Data can be selected by site, area, parameter and time.



Electronic Information: PowerPoint Slide Presentation

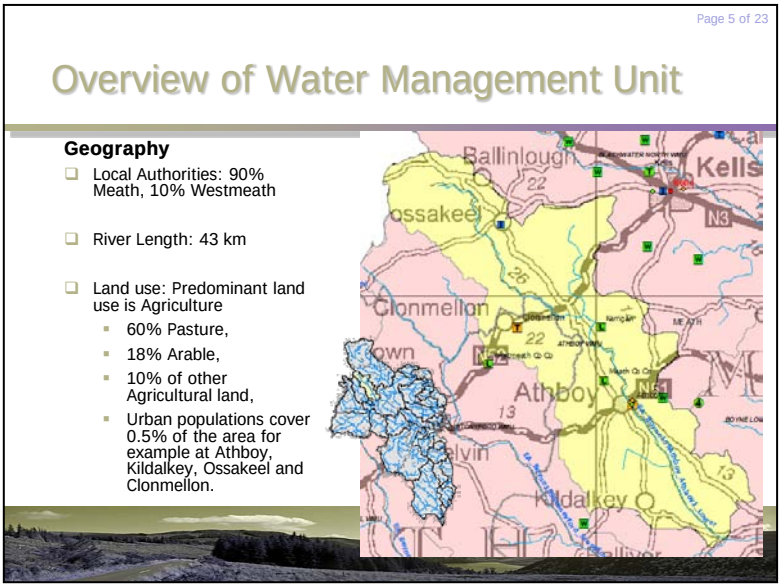
The Directive is clear that each water body has to be addressed, and that a catchment approach is required to manage waters. In the ERBD, the rivers have been grouped into water management units to allow a catchment based approach. The information is also managed at individual water body level so that reporting can be constructed at either scale.



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With 488 water bodies, many protected areas, multiple pressures, extensive data sets and hundreds of possible measures, the scale of data and information management challenge is extensive. To assist readers who wish to investigate particular waters in more detail, a set of more comprehensive information is contained within slide presentations on the ERBD website (www.erbd.ie). For each water management unit or individual lake, coastal or transitional water, extensive information is presented on the local area, the various pressures, the status and the measures selected. A summary example is provided below for the Athboy water management unit in the Boyne catchment. Equivalent data is available for all waters in the Eastern River Basin District.

The first slide provides an overview of the information in the file, which in effect is a mini plan for this particular set of waters. Subsequent slides then provide general background on the WFD.



An overview of the water management unit, the population centres, land use and administrative boundaries is shown in map form. In the example shown the water management unit is depicted in yellow overlain on an Ordnance Survey map showing towns and roads to help orientate the user.

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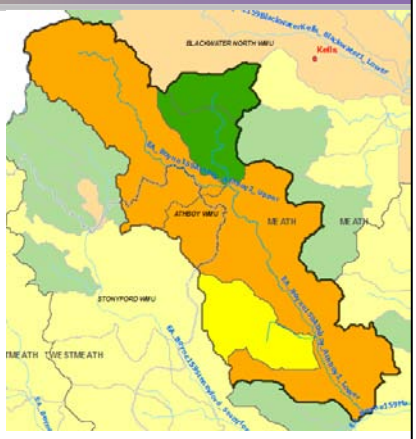
The present status of the waters in the water management unit is shown. These are provided by the EPA and are considered to be "interim" as they are based on only 2 years of data and because many water bodies have no monitoring stations within them.

3. Status of Water

The existing condition of our waters was determined by the Environmental Protection Agency using water quality, ecology and morphology monitoring data.

River Status:

Good	20%
Moderate	20%
Poor	60%



The percentage status is determined by the number of reportable segments or sub-basins. For this reason the percentage might not seem representative.

All of the protected areas in the water management unit are listed and shown in map form.

The subsequent slides describe:

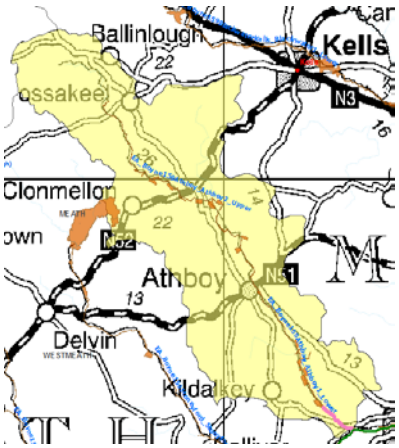
- the problems facing the waters in the area; and
- the causes of those problems.

A series of slides then describes the basic measures (existing legislation) in place and the specific combination of basic and additional specific actions considered necessary to achieve the objectives of the WFD; this combination of measures is termed "priority actions" in this Plan. These are listed for each local authority which has land in the area of concern (the priority action elements of basic measures for Meath are shown as an example):

5. Protected Areas

- Some areas require greater protection because they contain rare and vulnerable habitats or wildlife. Other protected areas are sensitive because of their beneficial use for humans, such as drinking water sources or shellfish areas.

Drinking Water (1)	i	River Tremblestown
Special Areas of Conservation (Habitat) (2)	i	River Boyne and River Blackwater
Natural Heritage Areas (2)	i	Lough Shesk and Girley Bog



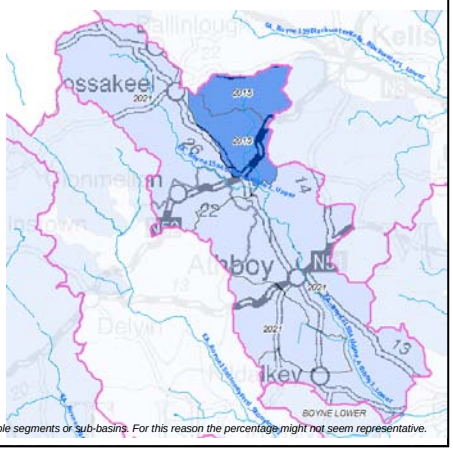
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The target dates for achieving good status for each water body and the justification for those dates are also shown:

9. Target Date

- In some cases due to technical infeasibility, disproportionate cost, the natural condition of the water body or new physical modifications it may not be possible to achieve all core objectives by 2015.
- The main pressure preventing achievement of Good Status is thought to be diffuse agricultural and point sources pollution. Full implementation of the measures is expected to correct this, however recovery time will mean that the larger rivers will not achieve Good Status before 2015.

2015	40%
2021	80%
2027	100%



The percentage status is determined by the number of reportable segments or sub-basins. For this reason the percentage might not seem representative.

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9 Proposed Measures

The measures that are proposed have been selected jointly by the Eastern River Basin District project and the constituent Local Authorities. Descriptions of each individual water body or sub catchment, the pressures affecting it and the proposed measures are provided in a series of separate, more detailed, electronic documents (see Section 8) which can be downloaded from the Eastern River Basin District website www.erbd.ie.

The initial selections were reviewed internally by different groups within the Local Authorities, and then by the Technical and Advisory Councils prior to the publication of the Draft Plan in December 2008. A greater level of detail together with the data and assumptions used, on a water body by water body basis, can be seen in the River Basin Management System (see Section 8). This can be viewed in each Local Authority and will allow interested parties to look in detail at individual water bodies and sub catchments and the process that was adopted.

The programme of measures for each water body comprises those basic measures (existing legislation) and additional specific actions considered necessary to achieve the objectives of the WFD; this combination of measures is termed "priority actions" in this Plan. A full list of basic measures can be seen in Section 7, whilst the supplementary measures and additional actions chosen for each sub-catchment or water body in the Eastern River Basin District can be read in Appendix B.

The tables in the accompanying Programme of Measures document present the priority actions to address the major pressures affecting each water management unit or water body, the agencies responsible for their implementation and other bodies which have a critical role in their success. These tables also show the present status of each water body and their target dates to achieve good status. The priority actions represent those measures that are considered necessary to achieve good status and include both existing legislation and other measures. The tables are grouped by water body type (rivers, lakes, transitional, coastal and groundwater) and are presented alphabetically within those groups.

Tables 9.1 and 9.2 present a summary of the priority actions (the combination of selected basic and supplementary measures), together with their relative costs, that are recommended to be applied in each water body or sub catchment grouped by the source of pressure, for example wastewater treatment plants or abstractions. A unique combination of measures has been identified to address the particular set of pressures that affect each sub catchment or water body. Maps 9.1 – 9.3 show the water management units and water bodies individually. Table 9.3 provides the names of the groundwater bodies represented by number codes on Map 9.3. The most frequently selected measures, by source, can be seen in Appendix D.

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Estimates of cost and effectiveness have been developed for each individual measures in the programme of measures for each sub-catchment or water body for the period 2009 – 2015 and these are available in the river basin management system; a summary is provided in Section 10. At this stage the costs are approximate, sometimes based on unit values or capital costs for works already planned. All of the assumptions that have been used in the process of measures selection and evaluation have been recorded in the RBMS and are also available for review. As more accurate information becomes available through pilot studies and other sources, then this can readily be incorporated, and the cost calculations revised accordingly.

It is recommended that a precautionary approach is adopted whereby some of the measures selected are implemented by pilot studies accompanied by intensive monitoring and modelling. It is sensible that measures are not widely imposed before full confidence in their effectiveness and appropriateness is gained through these preliminary activities.

This Plan identifies some water bodies which are not expected to achieve good status by 2015. However, the vast majority are expected to attain good status in the subsequent planning cycles when the measures have been fully tested and evaluated.

Table 9.4 lists the wastewater treatment works in the Eastern River Basin District, the planned improvements and a date by which they need to perform satisfactorily if the target dates for good status are to be achieved. These are presented on Map 9.4. The improvement of treatment plants will be a key element of achieving good status in many waters, either through increased capacity or additional levels of treatment. However, it is important that this work is carefully considered at the design stage since achieving the requirements of the Urban Wastewater Directive may not, in itself, provide adequate protection to the environment, especially where the discharges are into small rivers and streams or lakes which have low assimilative capacity. Similarly, in some areas other pollutant sources are more important and installation of additional levels of treatment may not be cost effective.

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Table 9.1: Recommended Programme of Measures: Basic Measures
Measures to Reduce Impact from Source Type

	Measures to Reduce Impact from Source												
Water Management Unit / Water Body	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	Dangerous Substances	Forestry	Industrial Sources	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Wastewater Treatment Plants	Indicative Total
Acurry (Lough)	€€	€	€	€									€€
Aleckafin_CL								*					*
Annagh Lough or White Lough	€						€€		€				€€
Ashford S&G		*	*						*				*
Athboy	€	€	€€€€		€				€€		€	€€€	€€€€
Athboy (001)		*	*						*				*
Avoca	€	€€	€€€€€		€	€		€	€€		€€	€	€€€€€
Avoca Estuary					€	€€€				€	€	€€€€€	€€€€€
Ballany S&G		*	*						*				*
Ballyboghil	€	€	€€€						€		€	€€€€€€	€€€€€€
Ballymore Eustace S&G		*	*						*				*
Baltray	€	€€	€€€	€	€				€		€		€€€
Balytunny	€	€	€€						€		€		€€
Bane (Lough)	€€												€€
Basketstown_LF								*					*
Bettystown						€							€
Blackwater North	€	€€€€	€€€€€		€				€€		€€	€€€	€€€€€
Blackwater South	€	€€€	€€€		€€				€€		€€	€€€	€€€€
Blessington S&G						€							€
Boyle_CL								*					*
Boyne Estuary		€€				€€						€€€€	€€€€€
Boyne Estuary Plume Zone													€
Boyne Lower	€	€€	€€€€€		€				€€		€€	€€€€€	€€€€€€
Boyne Upper	€	€€€€	€€€		€€				€€		€€	€€€€€	€€€€€€
Bray Lower (Lough)													€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source												
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	Dangerous Substances	Forestry	Industrial Sources	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Wastewater Treatment Plants	Indicative Total
Broad Lough		€€€											€€€€
Broadmeadow	€	€	€€€						€€		€€	€€€€€€€	€€€€€€€
Broadmeadow Water		€€€			€	€€					€	€€€€€€€	€€€€€€€
Cammock	€	€	€€		€€	€€		€€	€		€€€€	€€	€€€€€
Dargle	€	€	€€€		€€	€€			€€		€	€	€€€€
Deel	€	€€	€€		€				€		€	€	€€€
Delvin	€	€	€€€						€€		€	€€€€€€€	€€€€€€€
Devlin (Mattock)	€	€€	€€€€	€		€			€€		€		€€€€
Dodder	€	€€	€€		€€€	€€€		€€			€€€	€€	€€€€
Donabate	€	€	€€						€		€	€€€€€€€	€€€€€€€
Doo (Lough)	€												€
Drogheda		*	*			€			*				€
Drogheda Urban		*	*			€		*	*			*	€
Drogheda_LF								*					*
Drumkeery Lough	€€	€	€€						€€€				€€€
Dublin Bay					€€€	€€€€					€€€	€€	€€€€
Dublin Urban		*	*			*		*	*			*	*
Duleek		*	*						*				*
Dunshaughlin		*	*						*				*
Enniskerry S&G		*	*			€			*				€
Fassaroe_LF								*					*
Glass (Lough)	€												€
Glenasmole Reservoirs (068)	€€€	€	€€	€	€€						€	€	€€€
Glenasmole Reservoirs (070)	€	€	€€	€	€						€	€	€€
Glendalough Lower Lake							€€		€				€€
Glendalough Upper Lake							€€		€				€€
Golden Falls Reservoir		€			€								€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source												
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	Dangerous Substances	Forestry	Industrial Sources	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Wastewater Treatment Plants	Indicative Total
Irish Sea Dublin (HA 09)					€€					€			€€€
Kilcoole S&G						€							€
Kilcullen													*
Kilmurry	€	€	€€		€	€		€	€		€	€	€€€
Leixlip Liffey Reservoir	€				€€							€	€€€
Lene (Lough)	€€				€								€€
Liffey	€€€	€€€€	€€€€		€€€€	€€€		€€	€€		€€€	€€€€€€	€€€€€€
Liffey Estuary Lower						€€					€	€€€€€€	€€€€€€
Liffey Estuary Upper						€€		€€			€		€€€
Lough Lene													*
Lusk	€	€	€€€						€€		€	€€€€€€	€€€€€€
Lusk-Bog of the Ring	*	*	*			€			*				€
Lusk-West			*			€							€
Malahide Bay					€	€€						€€€€	€€€€
Mayne Estuary					€	€				€			€€€
Mosney	€	€	€€€						€		€		€€€
Moynalty		*	*			€			*				€
Naas		*	*			*			*				*
Naas_CL								*					*
Nadreegeal Loughs	€€	€	€€						€€				€€€
Nahanagan (Lough)													€€
Nanny	€	€€	€€€€						€€		€€	€€€	€€€€
Nanny Estuary		€€€				€		€€					€€€
Navan Orebody		*	*						*				*
Newcastle	€	€	€€€						€€		€		€€€
Newtown Lough		*	*						*				*
North Bull Island													€€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source												
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	Dangerous Substances	Forestry	Industrial Sources	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Wastewater Treatment Plants	Indicative Total
Northwestern Irish Sea (HA 08)					€€	€€		€€			€	€€€€€€	€€€€€€
Old Kilcullen S&G		*	*						*				*
Pollaphuca Reservoir		€	€€€		€€	€€	€€	€€	€€		€	€€€€	€€€€
Potters	€	€	€€€€		€				€€		€		€€€€
Ramor (Lough)		€	€€€			€€		€€	€€		€€	€€€€	€€€€
Rathnew	€	€	€€€						€		€		€€€
Rogerstown Estuary		€€			€€	€€		€€		€		€€€€€€	€€€€€€
Rye Water Valley GWDTE						€		*				*	€
Ryewater	€	€€€€	€€€€		€€				€€		€€	€€€	€€€€
Santry_Mayne_Sluice	€	€	€€		€€			€	€		€€€	€€	€€€
Shanganagh	€	€			€€€	€		€			€		€€€
Southwestern Irish Sea - Brittas Bay (HA 10)					€€€	€€€€		€€		€	€		€€€€
Southwestern Irish Sea - Killiney Bay (HA10)					€€€	€		€		€	€€	€€€€€€	€€€€€€
Stonyford	€	€€	€€€						€		€	€	€€€
Swords_CL								*					*
Tay (Lough)							€€		€				€€
Tempelrainy	€	€	€€						€				€€€
Tinnakilly_CL								*					*
Tolka	€	€	€€€€		€€			€	€€		€€€	€€€€	€€€€
Tolka Estuary						€€					€		€€€
Trim		*	*			€€		*	*				€€
Upper Lough Skeagh	€€	€	€€						€€€				€€€
Vartry	€	€	€€€		€				€€		€		€€€
Vartry Reservoir Lower	€€				€€							€	€€
Vartry Reservoir Upper	€€				€€							€	€€
Walkinstown_CL								*					*
Wicklow Central (Avoca Mine)						€€							€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source												
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	Dangerous Substances	Forestry	Industrial Sources	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Wastewater Treatment Plants	Indicative Total
Wicklow East	*	*	*						*				*
Wilkinstown		*	*			€			*				€
Grand Total	€€€	€€€€€€€	€€€€€€€	€€	€€€€€	€€€€€	€€	€€€	€€€€	€	€€€€€	€€€€€€€	€€€€€€€

*	This indicates that the chosen measure benefits both surface and groundwater and the costs have only been applied to surface water (rivers, lakes, transitional and coastal) to avoid double counting
€	€100,000
€€	€1,000,000
€€€	€5,000,000
€€€€	€15,000,000
€€€€€	€30,000,000
€€€€€€	€50,000,000
€€€€€€€	>€50,000,000

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Table 9.2: Recommended Programme of Measures: Supplementary Measures
Measures to Reduce Impact from Source Type

	Measures to Reduce Impact from Source															
Water Management Unit / Water Body	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Acurry (Lough)	€				€											€
Aleckafin_CL					*								*		€	€
Annagh Lough or White Lough					€			€		€						€
Arklow_Urban					*								*		€	€
Ashbourne Urban Nth					*								*		€	€
Ashbourne Urban Sth					*								*		€	€
Ashford S&G					*								*		€	€
Athboy	€		€€	€	€	€				€	€		€€		€€€€	€€€€
Athboy (001)				€	*								*		€€	€€
Avoca	€€		€€		€	€€€	€€€€€	€€			€€		€€€	€	€€€€	€€€€€€
Avoca Estuary					€	€€			€		€€		€€	€€		€€€
Bailieborough					*								*		€€	€€
Balbriggan				€	*								*		€	€
Balbriggan Urban				€	*								*		€	€
Ballany S&G					*								*		€	€
Ballyboghil	€		€€		€								€€		€€	€€€
Ballymore Eustace S&G					*								*		€	€
Balrothery				€	*								*		€	€
Baltray	€				€	€							€€€		€€	€€€
Balytunny	€		€		€	€€							€		€€	€€
Bane (Lough)	€€				€	€										€€
Basketstown_LF					*								*		€	€
Ben Lough					€	€€										€€
Bettystown				€		€€	€						*		€€	€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Blackwater North	€€		€€	€	€	€€				€	€		€€€	€€	€€€€	€€€€€
Blackwater South	€		€€	€	€	€€				€	€		€€€		€€€	€€€€
Blessington S&G				€	*		€						*		€	€
Boyle_CL					*	*							*		€	€
Boyne Estuary					€	€€	€		€		€			€€	€€€	€€€
Boyne Estuary Plume Zone					€											€
Boyne Lower	€	€	€€	€	€	€€				€			€€€		€€€€€	€€€€€
Boyne Upper	€		€€	€	€	€€	€			€	€€		€€€		€€€	€€€€
Bray Lower (Lough)					€	€			€							€
Bray Upper (Lough)					€	€										€
Bray Urban					*								*		€	€
Broad Lough					€	€			€					€€	€€	€€€
Broadmeadow	€	€	€€	€	€	€€				€	€		€€€€		€€	€€€€
Broadmeadow Water					€	€			€		€			€€	€€€	€€€
Cammock	€				€	€€€					€			€€€€	€€€€€€	€€€€€€
Castlekeeran S&G					*								*		€	€
Curragh S&G				€	*								*		€	€
Dan (Lough)					€											€
Dargle	€		€€		€	€€	€	€	€		€€€€		€€€	€	€€€€€	€€€€€
Dargle Estuary					€	€					€					€
Deel	€€		€		€	€€				€			€€		€€€	€€€
Delvin	€		€€	€	€	€				€			€€		€€€€€	€€€€€
Devlin (Mattock)	€		€€		€	€				€	€		€€€		€€€	€€€
Dodder	€€€				€€	€€€€			€€		€€€€			€€€€	€€€€€€€	€€€€€€€
Donabate	€		€		€	€							€€		€€€€€	€€€€€
Donore					*								*		€	€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Doo (Lough)					€	€										€
Drogheda				€	*	€€	€						*		€€	€€
Drogheda Urban					*	€€	€						*		€€	€€
Drogheda_LF					*	*							*		€	€
Drumkeery Lough	€				€	€			€				€€			€€
Dublin				€	*								*		€	€
Dublin Bay					€	€€	€		€		€	€€		€€€	€€€	€€€
Dublin Urban				€	*		€						*		€€	€€
Duleek				€	*								*		€	€
Dunshaughlin					*								*		€	€
Enniskerry S&G				€	*		€						*		€	€
Fassaroe_LF					*								*		€	€
Glass (Lough)					€	€										€
Glenasmole Reservoirs (068)	€€					€			€		€					€€
Glenasmole Reservoirs (070)	€					€			€		€					€
Glendalough Lower Lake					€			€		€						€
Glendalough Upper Lake					€	€		€		€						€
Golden Falls Reservoir	€€	€	€			€							€			€€
Gormanstown S&G				€	*								*		€	€
Greystones Urban					*								*		€	€
Hill of Tara					*								*		€	€
Hynestown				€	*								*		€	€
Irish Sea Dublin (HA 09)					€	€€										€€
Kilcoole Marsh					€	€										€
Kilcoole S&G				€	*		€						*		€	€
Kilcullen				€	*								*		€€	€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Killyconny Bog (Cloghbally)					*								*		€	€
Kilmurry	€		€		€	€							€		€€	€€
Kilrathmurry S&G					*								*		€	€
Leixlip Liffey Reservoir	€					€			€		€					€€
Lene (Lough)	€				€	€										€€
Liffey	€€€		€€		€	€€€€	€	€	€		€€		€€€	€€€€	€€€€€€	€€€€€€
Liffey Estuary Lower						€			€		€	€		€€	€€€€€	€€€€€
Liffey Estuary Upper					€	€			€		€	€		€€	€€€€€	€€€€€
Longwood					*								*		€	€
Lough Lene					*	€€							*		€€	€€
Lusk	€		€€		€	€							€€			€€
Lusk-Bog of the Ring	€€			€			€						*		€	€€
Lusk-East				€	*								*		€	€
Lusk-West				€	*		€						*		€	€
Malahide Bay					€	€			€					€€	€€€	€€€
Mayne Estuary					€	€			€		€€			€€	€€	€€€
Mosney	€		€	€	€					€			€€		€€	€€
Mount Hevey Bog					*								*		€	€
Moynalty					*		€						*		€	€
Moynalvy					*								*		€	€
Naas					*								*		€	€
Naas Bedrock Nth Urban					*								*		€	€
Naas Bedrock Sth Urban					*								*		€	€
Naas_CL					*								*		€	€
Naas_SG Urban					*								*		€	€
Nadreegeal Loughs	€				€	€			€							€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Nahanagan (Lough)					€	€					€					€
Nanny	€		€€	€	€	€€				€			€€€€		€€€€	€€€€
Nanny Estuary					€	€									€€	€€
Navan Nth Urban					*								*		€	€
Navan Orebody					*								*		€	€
Navan Orebody 2					*								*		€	€
Navan Sth Urban					*								*		€	€
Navan Tailings					*								*		€	€
Newbridge Urban					*								*		€	€
Newcastle	€		€		€	€€							€	€€	€€€	€€€
Newtown Lough					*								*		€	€
North Bull Island					€	€					€€€			€€€	€€	€€€
Northwestern Irish Sea (HA 08)					€											€
Old Kilcullen S&G					*								*		€	€
Ouler (Lough)					€	€										€
Pollaphuca Reservoir	€					€			€		€					€€
Potters	€		€€		€	€€	€						€	€	€€	€€€
Taheenmore Bog					*								*		€	€
Ramor (Lough)					€	€			€				€€			€€
Rathnew	€		€		€	€							€		€€€€	€€€€
Realtage					*								*		€	€
Redbog					€	€										€
Rockabill					€	€										€
Rogerstown Estuary					€	€					€€		€€	€€	€€	€€€
Rush Urban					*								*		€	€
Rye Water Valley GWDTE					*		€						*		€	€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Ryewater	€		€€		€	€€				€	€		€€€		€€	€€€€
Santry_Mayne_Sluice	€		€		€	€€€€					€		€€€	€€€	€€€€€	€€€€€€
Shanganagh	€€€				€€	€€					€€€€				€€€€€€	€€€€€€
Skerries Nth Urban					*								*		€	€
Skerries Sth Urban					*								*		€	€
Southwestern Irish Sea - Brittas Bay (HA 10)					€	€€	€				€€				€€€	€€€€
Southwestern Irish Sea - Killiney Bay (HA10)					€	€€	€		€		€€		€€	€€	€€€€	€€€€
Stonyford	€		€€		€	€				€			€€		€€€	€€€
Swords					*								*		€	€
Swords Urban					*								*		€	€
Swords_CL					*								*		€	€
Tay (Lough)					€	€		€		€						€
Tempelrainy	€		€		€	€							€	€	€€	€€
Tinnakilly_CL					*								*		€	€
Tolka	€		€€		€	€€€€				€	€		€€€€€€	€€€	€€€€€€	€€€€€€
Tolka Estuary						€			€		€			€€	€€€€€	€€€€€
Trim				€€	*		€€						*		€€	€€
Trim Urban					*								*		€	€
Turlough Hill					€	€										€
Upper Lough Skeagh	€				€	€			€				€€			€€
Vartry	€€		€		€	€€	€	€					€	€	€€€€	€€€€
Vartry Reservoir Lower	€€					€			€		€					€€
Vartry Reservoir Upper	€€					€			€		€					€€
Walkinstown_CL					*								*		€	€
Wicklow Central (Avoca Mine)					*	*	€€€						*		€	€€€
Wicklow East					*								*		€€	€€

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Water Management Unit / Water Body	Measures to Reduce Impact from Source															
	Abstractions	Agricultural Point and Diffuse Sources	Unlicensed Agricultural Point Sources	Chemical Fertiliser	Planning, Development and other sources	An Absence of sufficient data	Dangerous Substances	Forestry	To Protect High Status Waters	Manure Fertilisers	Intensive Landuse	Local Authority Licenced Discharges	Onsite Wastewater Treatment Systems	Urban Diffuse Pollution	Wastewater Treatment Plants	Indicative Total
Wicklow South					*								*		€€	€€
Wilkinstown					*		€						*		€€	€€
Indicative Total	€€€€	€	€€€€	€€	€€	€€€€€€	€€€€€	€€€	€€	€€	€€€€€	€€	€€€€€€€	€€€€€€	€€€€€€€	€€€€€€€

*	This indicates that the chosen measure benefits both surface and groundwater and the costs have only been applied to surface water (rivers, lakes, transitional and coastal) to avoid double counting
€	€100,000
€€	€1,000,000
€€€	€5,000,000
€€€€	€15,000,000
€€€€€	€30,000,000
€€€€€€	€50,000,000
€€€€€€€	>€50,000,000

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Table 9.3: Key to Groundwater Bodies Map

ID	Groundwater Body
1	Dunshaughlin
2	Hill of Tara
3	Hynestown
4	Longwood
5	Moynalty
6	Moynalvy
7	Realtage
8	Swords_CL
9	Aleckafin_CL
10	Basketstown_LF
11	Tinnakilly_CL
12	Bettystown
13	Donore
14	Boyle_CL
15	Drogheda_LF
16	Naas_CL
17	Walkinstown_CL
18	Duleek
19	Ballany S&G
20	Ballymore Eustace S&G
21	Blessington S&G
22	Kilrathmurry S&G
23	Lusk-Bog of the Ring
24	Navan Orebody 2
25	Navan Tailings
26	Naas_SG Urban
27	Naas Bedrock Nth Urban
28	Rush Urban
29	Newbridge Urban
30	Curragh S&G
31	Ashbourne Urban Nth
32	Ashbourne Urban Sth
33	Trim Urban
34	Lusk-East
35	Skerries Sth Urban
36	Skerries Nth Urban
37	Wilkinstown
38	Navan Sth Urban
39	Trim

ID	Groundwater Body
40	Drogheda Urban
41	Swords
42	Wicklow South
43	Old Kilcullen S&G
44	Balbriggan
45	Balrothery
46	Castlekeeran S&G
47	Drogheda
48	Gormanstown S&G
49	Lough Lene
50	Lusk-West
51	Naas
52	Wicklow Central (Avoca Mine)
53	Arklow_Urban
54	Kilcoole S&G
55	Ashford S&G
56	Bray Urban
57	Greystones Urban
58	Enniskerry S&G
59	Balbriggan Urban
60	Kilcullen
61	Naas Bedrock Sth Urban
62	Navan Nth Urban
63	Navan Orebody
64	Swords Urban
65	Wicklow East
66	Fassaroe_LF
67	Dublin Urban
68	Rye Water Valley
69	Dublin
70	Raheenmore Bog
71	Newtown Lough
72	Mount Hevey Bog
73	Killyconny Bog (Cloghbally)
74	Athboy
75	Bailieborough
S&G	Sand& Gravel
CL	Contaminated Land
LF	Landfill

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Table 9.4 Wastewater Treatment Plants in the Eastern River Basin District

Name	County	Present Treatment	Type of Treatment	Date of New Works (Year)	WSIP Cost	Population	Receiving Water	Status of Receiving Water	Good Status Target Date
Population Equivalent greater than 15,000									
North Dublin Drainage System (Howth)	Dublin City / Fingal	No Treatment, Secondary Treatment. Plant Under Construction		Upgrade due 2012		30,000	North Dublin Bay		
Ringsend WwTW	Dublin City	Secondary.	Sequential Batch Reaction	Extension: Start 2009, Finish 2016	€66,000,000	1,900,000	Liffey Estuary	Moderate	2027
Shanganagh WwTW	Dun-Laoghaire Rathdown	Preliminary Treatment. Secondary Treatment Plant Under Construction		Start 2007 - 2009	€76,000,000	67,500	SW Irish Sea (Killiney Bay HA 10)	High	2015
Swords WwTW	Fingal	Secondary with NR	Conventional Aeration	2012		60,000	Broadmeadow Estuary	Moderate	2027
Skerries WwTW	Fingal	New Secondary Treatment Plant Constructed in 2008	Septic Tank			12,500	Northwestern Irish Sea (HA 08)	High	2015
Balbriggan Outfall	Fingal	New Secondary Treatment Plant Constructed in 2008				13,000	NW Irish Sea (HA 08)	High	2015
Leixlip WWTP	Kildare	Secondary with NR	Activated Sludge	Lower Liffey Valley Sewerage Scheme (Treatment Plant & Collection System for Kilcock, Celbridge, Maynooth and Leixlip). At construction	€35,700,000	80,000	River Liffey Lower	Poor	2027
Osberstown WWTP	Kildare	Secondary with NR	Conventional Aeration	Work Ongoing: Sewerage Scheme Stage 3 (Osberstown)	€18,000,000	80,000	River Liffey Lower	Moderate	2027
Drogheda WWTP	Louth	Secondary				101,000	Boyne Estuary	Moderate	2027
Navan WwTW	Meath	Secondary with NR	Extended Aeration			40,000	Boyne River	Moderate	2021
Population Equivalent 10,000 – 15,000									
Malahide WwTW	Fingal	Secondary	Conventional Aeration	Upgrade due 2012		21,000	Broadmeadow Estuary	Moderate	2027
Trim WwTW	Meath	Secondary with NR	Extended Aeration			12,000	Boyne River	Moderate	2021
Arklow	Wicklow	No Treatment		Arklow Sewerage Scheme	€15,900,000	15,000	Avoca Estuary	Moderate	2027
Population Equivalent 2,000 – 10,000									
Mullagh WWTP	Cavan	Secondary with NR	Biological Filtration			3,000	Moynalty Lower	Poor	2021
Virginia WWTP	Cavan	Secondary with NR	Extended Aeration	Virginia & Bailieborough Sewerage Scheme Extension Stage 3 Primary Report for upgrading Virginia WWTP completed. Start 2007 – 2009?	€8,000,000	3,000	Lough Ramor	Bad	2027
Bailieborough WWTP	Cavan	Secondary with NR	Extended Aeration	See above	€8,000,000	2,500	Blackwater Upper	Poor	2015
Portrane WwTW	Fingal	Secondary	Extended Aeration	Portrane/ Donabate/ Rush/ Lusk Sewerage Scheme. Start 2009, Finish 2011	€62,400,000	8,000	Northwestern Irish Sea (HA 08)	High	2015
Lusk Waste WwTW	Fingal	Primary Treatment Only	Septic Tank	Donabate/ Rush/ Lusk Sewerage Scheme.	€62,400,000	3,000	Rogerstown Estuary	Moderate	2021
Rush Outfall	Fingal	No Treatment		Portrane/ Donabate/ Rush/ Lusk Sewerage Scheme.	€62,400,000	12,500	Northwestern Irish Sea (HA 08)	High	2015

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Name	County	Present Treatment	Type of Treatment	Date of New Works (Year)	WSIP Cost	Population	Receiving Water	Status of Receiving Water	Good Status Target Date
Dunshaughlin WwTW	Meath	Secondary with NR	Extended Aeration			4,500	Broadmeadow Upper	Bad	2021
Johnstown Bridge Sewage WwTW	Meath	Secondary with NR	Extended Aeration			3,500	Ballycorron River	Good	2015
Kells Waste WwTW	Meath	Secondary	Extended Aeration	Kells Sewerage Scheme. Start 2007 - 2009	€11,000,000	8,000	Blackwater Lower River	Poor	2015
Stamullen WwTW	Meath	Secondary with NR	Extended Aeration			2,500	Delvin Lower	Poor	2021
Athboy Waste WwTW	Meath	Secondary	Extended Aeration	Meath Grouped Towns & Villages Sewerage Scheme - Works underway. Finish Early 2010	€37,000,000	2,500	Trimblestown River	Poor	2021
Duleek Waste WwTW	Meath	Secondary with NR	Extended Aeration	Meath Grouped Towns & Villages Sewerage Scheme - Works underway. Finish End 2009	€37,000,000	2,500	Nanny River	Poor	2027
Mornington	Meath	Preliminary Treatment Only		Pumped to Drogheda since 2003		6,000			
Edenderry WwTW	Offaly	Secondary with NR	Extended Aeration	Edenderry Sewerage Scheme - Interim Plant commissioned 12/2007. Included in WSIP 2009. Start 2007 - 2009	€14,300,000	7,700	Boyne Upper	Moderate	2015
Kinnegad WwTW	Westmeath	Secondary with NR	Extended Aeration	Plant Upgrade Planned	No Info	2,800	Kinnegad Lower	Moderate	2021
Rochfortbridge WwTW	Westmeath	Secondary	Extended Aeration	Rochfortbridge Sewerage Scheme Phase 1. Start 2007 - 2009	€5,870,000	2,700	Castlejordan River	Poor	2027
Kilcoole WwTW	Wicklow	Secondary	Extended Aeration			3,000	Kilcoole Marsh	Moderate	2021
Blessington WwTW	Wicklow	Secondary with NR	Extended Aeration	Start 2007 - 2009	€3,445,000	3,000	Golden Falls Reservoir		
Enniskerry WwTW	Wicklow	Secondary with NR	Extended Aeration			3,000	Dargle River	Good	2015
Population Equivalent less than 2,000									
Coliemore Outfall	Dun-Laoghaire Rathdown	No Treatment				812	Dublin Bay	Moderate	2027
Toberburr WwTW Plant	Fingal	Secondary	Extended Aeration			650	Ward Lower	Poor	2027
Loughshinny WwTW	Fingal	Primary Treatment Only	Septic Tank			2,000	Northwestern Irish Sea (HA 08)	High	2015
Ballymore Eustace WWTP	Kildare	Primary Treatment Only	Dortmund Tank	Plant Upgrade planned. Start 2007 - 2009	€1,400,000	1,000	Liffey Lower	Moderate	2021
Kilmeague WWTP	Kildare	Secondary	Activated Sludge			700	Awillyinish Stream	Moderate	2021
Tullyallen WwTW	Louth	Secondary	Extended Aeration with Nutrient Removal			1500	Boyne Estuary	Moderate	2027
Collon WWTP	Louth	Secondary	Nutrient Removal and tertiary polishing	Serviced Land Initative		1200	River Mattock	Moderate	2021
Ballivor WwTW	Meath	Secondary with NR	Extended Aeration			500	Ballivor River	Moderate	2021
Kildalkey WWTP	Meath	Secondary				137	Athboy Lower	Poor	2021
Slane Waste WwTW	Meath	Secondary	Extended Aeration			1,500	Boyne Lower	Moderate	2027
Longwood WwTW	Meath	Secondary with NR	Extended Aeration			700	Blackwater Lower	Moderate	2021
Summerhill WwTW	Meath	Secondary	Extended Aeration	Meath Grouped Towns & Villages Sewerage Scheme. Start 2007 - 2009 (Works underway - mid 2010)	€37,000,000	700	Clonymeath River	Good	2015

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Name	County	Present Treatment	Type of Treatment	Date of New Works (Year)	WSIP Cost	Population	Receiving Water	Status of Receiving Water	Good Status Target Date
Kentstown	Meath	Secondary with NR	Extended Aeration			600	Nanny Upper	Poor	2027
Carlanstown WwTW	Meath	Secondary with NR	Extended Aeration			600	Moynalty Lower	Poor	2021
Kilmessan	Meath	Secondary					Skane Lower	Moderate	2021
Rhode WwTW	Offaly	Secondary with NR	Imhoff Tank	Rhode Sewerage Scheme. Start 2007 - 2009, Interim Plant commissioned 12/2007. Included in WSIP 2009.	€3,832,000	976	Yellow Upper	Good	2015
Clonmellon WwTW	Westmeath	Secondary	Extended Aeration	Plant Upgrade Planned. Start 2007 - 2009	€689,000	500	Athboy Lower	Poor	2021
Delvin WwTW	Westmeath	Secondary	Extended Aeration	Start 2007 - 2009	€4,300,000	800	Stonyford	Moderate	2021
Killucan WwTW	Westmeath	Secondary	Extended Aeration			700	Riverstown	Moderate	2021
Kilpedder WwTW	Wicklow	Secondary	Extended Aeration	Kilpedder WWTP connection to Greystones Scheme. Sewerage laid 2009. Pumping stations dependant on Development. On hold		600	Knickitty Stream		
Avoca	Wicklow	Primary Treatment Only	Septic/Imhoff Tank			500	Avoca Upper	Bad	2027
Roundwood	Wicklow	Secondary		Roundwood WWTP upgrade to 1,600PE. Completed in 2006		460	Avonmore Upper	Good	2015
Ballinaclash WwTW	Wicklow	Secondary with NR	Extended Aeration	Ballinaclash WWTP Upgrade to 600PE. Completed		270	Avonbeg Lower	Poor	2027
Rathnew WwTW	Wicklow	Secondary	Extended Aeration			1,530	Rathnew Upper	Moderate	2021
Rathdrum WwTW	Wicklow	Primary Treatment Only	Septic/Imhoff Tank	Plant Upgrade planned. Start 2007 - 2009	€4,432,000	1,500	Avoca Upper	Bad	2027
Aughrim WwTW	Wicklow	Secondary	SBR			1300	Aughrim River	Good	2015
Ashford WwTW	Wicklow	Secondary	Oxidation Ditch	Ashford WWTP Decommission. Connect to Wicklow Sewerage Scheme, 2010		1090	Vartry Lower	Moderate	2015
Laragh	Wicklow	Secondary	Extended Aeration			1000	Avonmore Lower	Good	2015
Newcastle WwTW	Wicklow	Secondary	Extended Aeration	Newcastle / Rathcoole / Saggart Water Supply and Sewerage Scheme (Development of Services). Start 2007 - 2009	€5,170,000	1000	Newcastle River	Moderate	2021
Redcross	Wicklow	Secondary	Extended Aeration	Redcross WWTP Upgrade to 800PE + . Completed 2008polishing Filter		800	Redcross Upper	Moderate	2021
Other Plants									
Oldtown	Fingal	Secondary	Extended Aeration			500			
Naul	Fingal	Secondary	Conventional Aeration			400	Glendasan	Poor	2021
Ballyboghill	Fingal	Secondary	Conventional Aeration with Nutrient Removal			250	Oldtown	Poor	2021
Garristown	Fingal	Secondary	Extended Aeration with Nutrient Removal			200	River Delvin		
Balgriffin	Fingal	Secondary				100	Mayne	Poor	2027
Colecot WwTW	Fingal	Primary				100	Wimbletown Upper	Good	2009
Turvey WwTW	Fingal	Primary	Septic Tank			100	Oldtown	Poor	2021
Rolestown	Fingal	Primary	Septic Tank	Upgrade finalised 2010		100	Broadmeadow	Poor	2027

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Name	County	Present Treatment	Type of Treatment	Date of New Works (Year)	WSIP Cost	Population	Receiving Water	Status of Receiving Water	Good Status Target Date
Clonuff	Kildare	Unknown	Septic Tank			60	Glash Mid	Poor	2021
Newtown Enfield	Kildare	Unknown	Puraflo			80	Newtown Stream		
Donore	Kildare	Unknown	Puraflo	Works underway. 2007 - 2010		90	Awillyinish	Moderate	2021
Clogherinko	Kildare	Unknown	MBBR Aeration System			60	Ballycowan	Good	2015
Rathcoffey	Kildare	Unknown	Puraflo			100	Ryewater		2027
Julianstown WwTW	Meath	Unknown	Pumped to Drogheda			600	Nanny Lower	Poor	2027
Donore WwTW	Meath	Secondary	Extended Aeration	Meath Grouped Towns & Villages Sewerage Scheme . 2007 - 2009	37,000,000	500	Boyne Lower	Good	2021
Crossakeel	Meath	Secondary				400	Athboy Upper	Poor	2021
IDA (Kells)	Meath	Unknown		Kells Sewerage Scheme.'07 – '09	11,000,000	400	Blackwater Lower	Poor	2027
Dunderry	Meath	Unknown				200	Clady Mid	Moderate	2021
Moynalty	Meath	Unknown		Meath Grouped Towns & Villages Sewerage Scheme	37,000,000	200	Moynalty Lower	Poor	2021
Clonard	Meath	Unknown				100	Kinnegad Lower	Moderate	2021
Ballinabrackey	Meath	Unknown				50	Castlejordan River		
Enfield	Meath	Secondary				3500	Blackwater	Good	2015
Bohermeen	Meath	Unknown				50	Ditch		
Laytown WwTW	Meath	Secondary	Extended Aeration			2500	NW Irish Sea (HA 08)	High	2015
Ratarney	Westmeath	Unknown				140	Deel	Moderate	2015
Milltownpass	Westmeath	Unknown		Milltownpass Sewerage Scheme. 2007 - 2009	2,300,000	80	Milltownpass	Moderate	2015
Thomastown	Wicklow	Unknown				150	Ballyduff Upper	Moderate	
Glenealy WwTW	Wicklow	Secondary	RBC			450	Rathnew Upper	Moderate	2021
Hollywood WwTW	Wicklow	Secondary	Extended Aeration			250	Longstone	Good	2015
Glendalough WwTW	Wicklow	Secondary	Extended Aeration			200	Glendasan	Poor	2027
Barndarrig	Wicklow	Unknown				200	Potters	Good	2015
Kirakee	Wicklow	Unknown				50	Avonbeg Lower	Poor	2027
Knockiernan	Wicklow	Unknown					Pollaphuca River		

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10 Target Objectives and Exemptions and Implementation of Measures

10.1 Introduction

This Plan describes the objectives of the Water Framework Directive (WFD), the present status of the waters in the Eastern River Basin District, the Programme of Measures (POM) that have been developed to protect and improve the waters and when these are expected to achieve good status in each water body.

Article 4 of the WFD sets out the environmental objectives and is clear that where several exist the most stringent will apply. It recognizes the special cases of Heavily Modified and Artificial water bodies and sets out specific objectives for these. In addition, exemptions are permissible based on:

- **Extensions of deadline**; the Directive Article 4 (4)(a) permits exemptions to this objective on the basis that:
  - *the scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;*
  - *completing the improvements within the timescale would be disproportionately expensive;*
  - *natural conditions do not allow timely improvement in the status of the body of water.*

- **Less stringent objectives**; *…..when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive;*

- **Temporary deteriorations**; *….if this is the result of circumstances of natural cause or force majeure which are exceptional or could not reasonably have been foreseen…* ;and

- **New modifications**; *…..those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option……*

Note: text in italics above is from the WFD

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The EU Common Implementation Strategy states that the exemptions are an integral part of the environmental objectives set out in Article 4 and the planning process.

The Programme of Measures for each water body or sub-catchment described in this Plan has been designed to achieve good status in the majority of waters in the Eastern River Basin District. However, some exceptions remain, as permitted under the Directive, and these are described in this section of the Plan. The WFD intends that all waters achieve their objectives (ecological, quantitative and chemical) by 2015; however, it recognises that this will not be possible in all cases and reasons for this are also identified in this section. Further detailed information is available for download from www.erbd.ie.

10.2 Alternative Objectives - Heavily Modified Waters and Artificial Waters

Some surface waters have been substantially changed in character to allow uses such as navigation, water storage, public supply, flood defence and land drainage. To recognise that the benefits from such modifications often need to be retained, these waters are designated as heavily modified. The same reasoning applies to artificial waters (for example canals) created for human activities.

Heavily modified and artificial waters (shown in Table 10.1 and 10.2 and Map 10.1) are expected to achieve good ecological potential and this requires that measures addressing, for example, water quality are still implemented. Good potential acknowledges that the use of the water has an important economic benefit but requires that whilst that use should be preserved, other attributes of the conditions of the water must reach their full potential. Good potential has not yet been defined by the EPA, but an interim potential has been provided courtesy of the EPA and

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Waterways Ireland (Tables 10.1 and 10.2). It is expected that the characteristics of good potential will be unique to each water body and will require measures that improve water quality and habitats where necessary. In the ERBD measures have been defined to address these issues, but they may require adjustment after the first cycle when good potential for each water body has been defined.

Table 10.1: Heavily Modified Waters

Water Body	Reason	Current Potential (as supplied by the EPA)
River Cammock	Flood Defences	Less than Good
River Dodder	Flood Defences, multiple weirs, reservoirs	Less than Good
River Liffey	Flood Defences	Good
River Santry	Flood Protection	Good
River Tolka	Flood Defences	Less than Good
Glenasmole Reservoir Lower	Impoundment for drinking water supply	Good
Glenasmole Reservoir Upper	Impoundment for drinking water supply	Good
Golden Falls	Hydro-electric Power / Drinking water supply	Less than Good
Leixlip Reservoirs	Impoundment for drinking water supply	Less than Good
Lough Nahanagan	Pumped hydro-electric power system	Good
Pollaphuca	Impoundment for drinking water supply	Less than Good
Vartry Reservoir Lower	Impoundment for drinking water supply	Good
Varty Reservoir Upper	Impoundment for drinking water supply	Good
Boyne Estuary	Flood Defences, Navigation, Dredging	Less than Good
Broadmeadow Estuary	Causeway for Dublin-Belfast railway line	Good
Dargle Estuary	Flood Defences	Less than Good
Liffey Estuary Lower	Flood Defences, Port and navigation, Dredging	Good
North Bull Island Lagoon	Flood Defences, Navigation	Good
Tolka Estuary	Flood Defences	Less than Good
Upper Liffey Estuary	Flood Defences, Navigation, Dredging	Less than Good
Dublin Bay	Flood Defences, Navigation, Dredging	Less than Good

Table 10.2: Artificial Waters

Water Body	Reason	Current Potential (as supplied by the EPA and Waterways Ireland)
Boyne Navigation	Man-made canal	Good
Grand Canal Dock	Man-made canal	Poor
Grand Canal Edenderry Branch	Man-made canal	Good
Grand Canal Main Line E of Lowtown	Man-made canal	Good
Grand Canal Main Line W of Lowtown	Man-made canal	Good
Grand Canal Naas & Corbally Branch	Man-made canal	Good
Royal Canal Main Line	Man-made canal	Good
Turlough Hill Reservoir	Pumped hydro-electric power system	Good

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10.3 Alternative Objectives – New Modifications or Developments

Alternative objectives can also be set for waters where it is known that a new modification or development, requiring tailored objectives, will take place during the period of plan. Such development proposals must have over-riding social and economic benefits and new developments must still allow waters to achieve good status. Proposals have to be assessed on a case by case basis and have to satisfy a series of tests of sustainability. Options have to be examined, such as alternative locations and different scales or designs, to ensure that all practicable steps are taken to mitigate adverse impacts as required by Regulation 33 of the European Communities Environmental Objectives (Surface Waters) Regulations, S.I. No. 272 of 2009. [1]In the Eastern River Basin District the following major proposed developments are known:

- Flood defences for Dublin (Dublin City Council);

[1] *Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010*

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- Beach Nourishment Project, Laytown (Meath County Council);
- Scotsman Bay (Dun Laoghaire Rathdown County Council);
- Transport 21 (Greater Dublin Area);
- Portmarnock Dune Stabilisation (Fingal County Council);
- Flood Defences for Rogerstown Estuary (Fingal County Council);
- Dublin Gateway Project (Dublin Port Company)
- 6-Year Maintenance Dredging Plan (2009-1015) (Dublin Port Company)
- Bulk Handling Facility (Dublin Port Company)
- Capital Dredging (Berths and Basins) (Dublin Port Company)
- Bremore Port in coastal Fingal/Meath (Fingal & Meath County Councils); and
- Water transfer to Greater Dublin from the Shannon River (Dublin City Council).

All of the above projects are still at an early stage and it is premature to comment on them individually. All such projects would be subject to normal planning processes, including the requirements for Environmental Impact Statements and Strategic Environmental Assessments as appropriate. These processes will, in turn, require compliance with the Directive.

10.4 Programmes of Measures

The POM in this Plan addresses the problems being experienced in each water body and identifies the priority actions that need to be taken to mitigate these pressures. It is anticipated that these measures will ultimately result in the achievement of good status in all waters except for one – the Wicklow Central (Avoca) Groundwater body which is detrimentally affected by leachate from both mine workings and an unlined landfill; a less stringent objective is proposed for this groundwater body. (This does not mean that action will not be taken to address pollution problems; it just recognises that the scientific information is not to hand to confirm that good status is achievable at a cost which would not be disproportionate; a detailed series of actions are proposed in this plan with review in 2014 to guide the subsequent plans).

The WFD includes many references to economic aspects of implementation, the most important of which are:

- Member States were required to carry out an Economic Analysis of Water Use by 2004;
- Member States are required to have a water pricing policy in place by 2010;
- Programmes of (supplementary) Measures must be the most cost effective combination of measures;
- Heavily Modified Water Bodies can be designated on the grounds of disproportionate cost to return them to their natural state;
- A longer timeframe for achieving good status is possible if the cost of achieving it by 2015 is disproportionate; and
- Modifications to water bodies that result in not achieving good status are possible if there is no alternative without incurring disproportionate cost.

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During the preparation of this Plan, full account has been taken of the requirements of the Directive and guidance provided by DEHLG through the "Guidance Manual on Economic Analysis Required by the Water Framework Directive" (April 2009) prepared by Goodbody Economic Consultants.

The date at which it is anticipated that each water body will achieve good status varies and is dependent on a number of factors:

- The period of natural recovery (especially for soils and groundwaters);
- The location in the catchment (downstream areas will not fully recover until the upstream waters are of satisfactory condition);
- The sequencing of implementing the measures; and
- The necessity to gather data in those waters where none is yet available prior to implementation of expensive measures.

The process of measures selection in the ERBD has been extensive and detailed. The Co-ordination Authority project team and Consultant CDM project team have led and coordinated the process, and all the local authorities in the ERBD have fully engaged; their specialist staff, with their detailed local knowledge, identified the pressures and appropriate measures for each sub catchment or water body throughout their respective geographic areas. This involvement by local specialists was fundamental to a realistic identification of measures for individual water bodies and water management units.

During the process of measures selection, the degree of implementation of all existing legislation in each water management unit or water body has been estimated, providing a valuable indicator of future implementation effort that will be required to fully implement those laws in each area. The WFD expects that prior legislation is fully

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implemented and that the cost of implementing all such legislation should not be included in any disproportionate cost calculation used to justify an exemption.

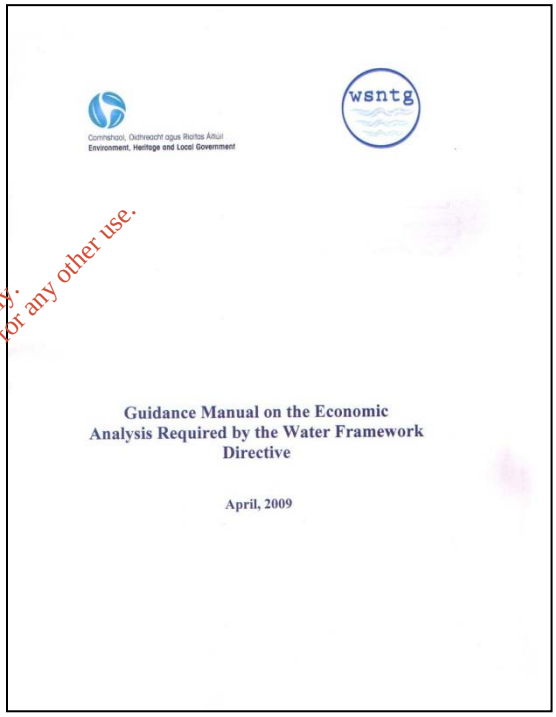
Legislation is implemented to varying degrees of completeness often dependent on available resources and this has been considered when identifying measures; it is important that the benefits from full implementation are assessed when considering what supplementary actions may be necessary. The POM that has been developed in this Plan has focused on those elements of existing legislation and any necessary additional actions that are judged to be the minimum necessary to achieve good status, given the pressures in the particular water.

For clarity and completeness the Plan presents all of the measures required by legislation, but for each water body, highlights those actions that are considered essential to deliver good status and are thus considered to be "priority actions".

It must be emphasised that all legislation will be fully implemented; however, a sub set of these (together with the supplementary actions) may be required to achieve the objectives of the WFD in any particular water body and it is these that are identified in the POM. For example, if a piece of legislation is already fully implemented in an area, then identifying it as a priority action is unnecessary. Similarly, some legislation is specific to certain types of waters and these would not be helpful to achieving good status elsewhere where those types of waters are not physically present.

10.4.1 Overall Costs

During the process of identifying the priority actions, the costs of implementing each has been estimated for individual water management units or water bodies at 2008 rates; the project team endeavoured to include costs for all parties. These costs represent the best estimates based on available data and the specialist knowledge available to the project team. This should be viewed as a first step in a continuing process and as experience of implementing some of the actions develops and the planning and design stages of capital projects are completed, then the cost estimates can be refined.



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In the ERBD all of the cost data and assumptions made in deriving them are recorded in the River Basin Management System (RBMS). The intent is that these data sets can be continually refined throughout the first, and subsequent, cycles of the WFD. The RBMS also provides a harmonised, comparable and transparent approach throughout the Eastern River Basin District.

This is a first attempt at quantifying the costs required to achieve good status in Ireland. It has been a complex process due to the limited cost data, and because consideration must also be given to environmental and social costs, which are difficult to define. Cost effectiveness of measures is emphasised in the WFD; the approach taken here provides a starting point to estimate the relative cost effectiveness of different actions, the overall costs of implementation and helps us to make difficult prioritisation decisions. National guidance on the application of cost effective analysis and disproportionate cost analysis were followed in arriving at this final Plan.

The total cost of the POMs to deliver the stated objectives of this Plan for the entire Eastern River Basin District is estimated at €2,950,000,000. This is not to say that implementing the WFD will cost this sum, as significant elements are due to priority implementation of existing legislation. Rather, it is to provide the funding agencies with an indication of **broad budgetary requirements** that will be necessary to achieve the objectives of the WFD.

Figure 10.1 shows the proportion of total costs likely to be incurred in each Local Authority within the Eastern River Basin District. The majority of costs fall within the 4 Dublin authorities which together account for over two thirds of the total costs reflecting the needs of the Greater Dublin Area in the areas of wastewater treatment works, sewer systems and combined storm overflows and the population density.

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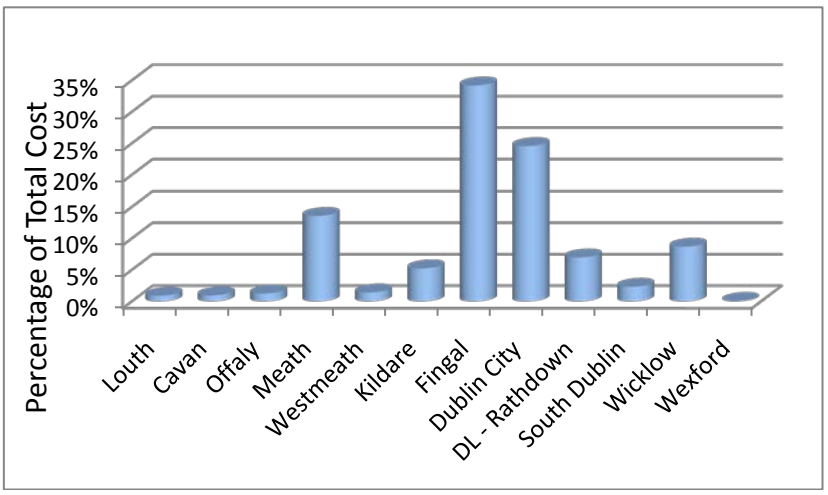


Figure 10.1: Cost of Measures by Local Authority

It should be noted that these costs are for the first planning cycle (in terms of staff resources) but assume that all capital works are constructed in that period. It should also be noted that these costs do not include operations and maintenance of WWTWs as it is not clear at this stage which plants will be constructed and operational in which years; for budgetary purposes we estimate that the O&M costs for all WWTWs in the ERBD would be in the order of €1,000,000,000 for the first planning cycle.

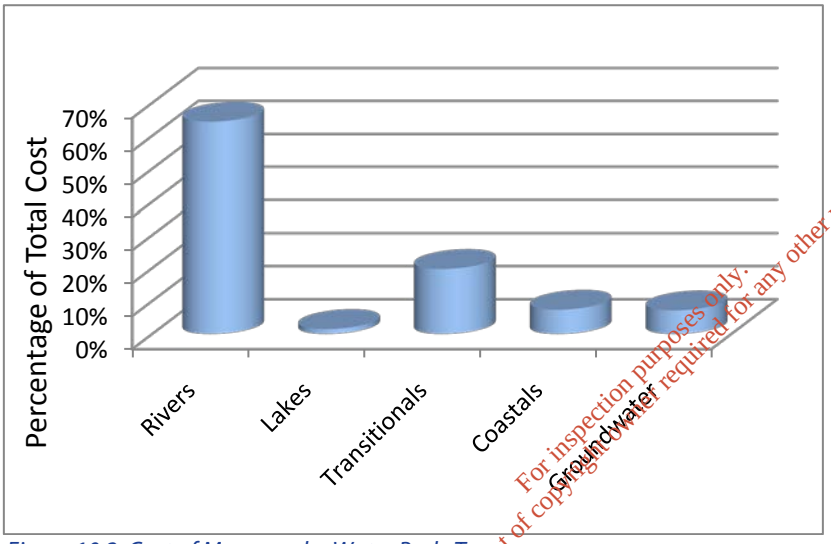


Figure 10.2: Cost of Measures by Water Body Type

Projected costs for each water body type are presented in Figure 10.2. It should be noted that very significant costs associated with a proposed wastewater treatment works in north Dublin has been included in the rivers' costs.

Note: the costs of measures addressing diffuse surface pollution are included in the surface waters measures and have not been duplicated in the groundwater costs.

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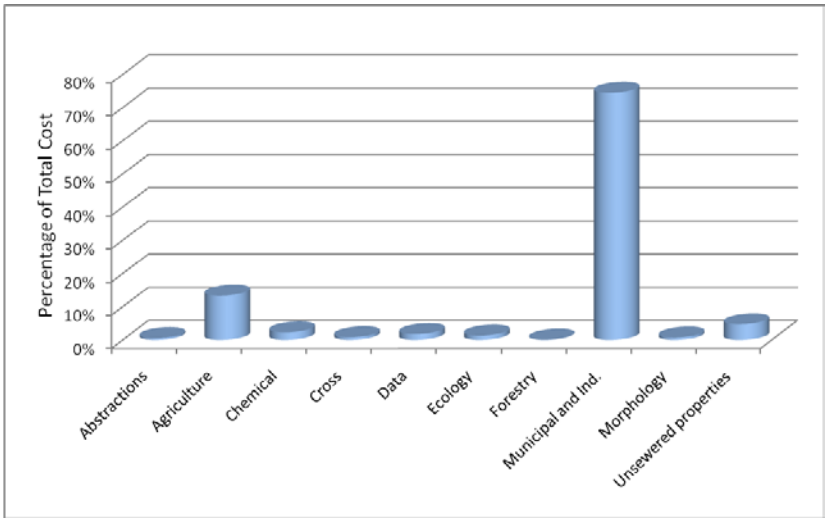


Figure 10.3: Cost of Measures by Economic Sector

Figure 10.3 presents the breakdown of total costs for different pressure types. It can be seen that approximately 75% of the cost of measures is projected to fall within the municipal and industrial sectors to rectify point source discharges and urban pollution. Agriculture accounts for 13% of the costs and unsewered properties 5%. Several pressures including chemical, cross and data will impact several sectors.

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The issue of funding and budgets is a matter for government (Central and Local). If good status is to be achieved in all waters by 2015, or as soon as possible thereafter, then the measures presented in the Plan will have to be implemented at the appropriate time in the initial cycle before 2015. Implementation of the full POM across the entire Eastern River Basin District is a massive task requiring careful programme planning and management and the coordination of several state and semi state agencies. It would require allocation of adequate budgets by each of the funding sources (mainly governmental) and the deployment of large numbers of staff resources by several organisations. The DEHLG intends to establish a high level advisory group to support the finalisation and subsequent implementation of the River Basin Management Plans and the Programmes of Measures. It is planned that the membership of the group will be made up from DEHLG, City and County Managers Association, the EPA and other government bodies as appropriate, including, for example, DAFF.

To be more cost effective, the Plan recommends a strategy of focussing on delivering the most effective measures in as many waters as possible. It is recognised in the Common Implementation Strategy (CIS) developed by the Member States that all problems facing the water environment cannot be addressed within a single planning cycle; the Directive allows for this by incorporating the use of exemptions to allow for prioritisation of actions to improve the water environment over a series of planning cycles. The CIS also recognises that objective setting and exemptions *should* be used to prioritise actions. Those measures not implemented in the first cycle will be addressed in subsequent cycles.

It is anticipated that the vast majority of waters in the ERBD will achieve good status over the three planning cycles ending in 2027 and that time based exemptions will reduce in each planning cycle. Figure 10.4 shows the planned progressive achievement of good status for all water bodies during the three planning cycles.

If funding arrangements make it necessary to implement the measures over an even more extended time period, then good status would inevitably be attained somewhat later. In these circumstances the order of implementation of measures will have a very significant effect on the short term success of the programme.

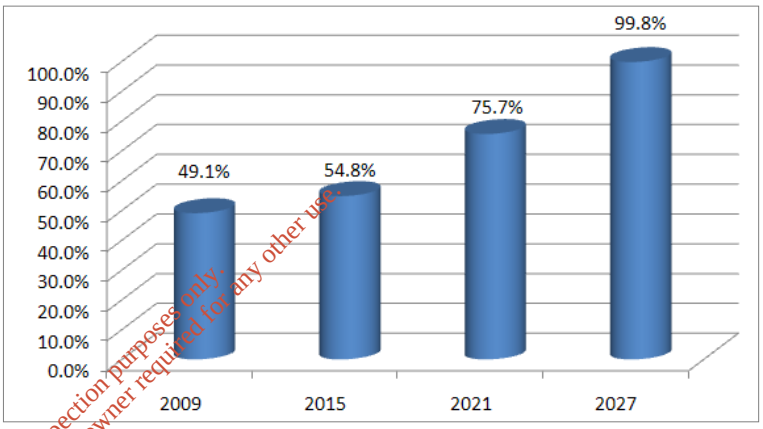


Figure 10.4: Progressive Achievement of Good Status (Numbers of Water Bodies)

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It is clear that if upstream pressures are not addressed, then good status will not be achieved in the lower reaches of the rivers and estuaries; this catchment philosophy is at the very heart of the Directive. This would not provide an excuse to ignore pressures lower down the catchment, but such work would not necessarily result in good status (this is addressed in more detail in Section 10.6). Good status would only develop as the impacts from upstream sources are also reduced. It is for this reason that the Plan places the initial emphasis on the upstream areas of catchments so that priority is given to measures that deliver multiple benefits. Similarly, if rural pressures are addressed without consideration of which areas they impact the most, then the best result will not be achieved in the short term.

This Plan includes some changes (from the draft Plan) in target dates for some rivers as it has been recognised that for some waters the interim status assessments have necessarily been based on extrapolated data rather than site specific measurements. In these cases the first action that will be taken is to initiate monitoring at those sites to confirm their status and the influencing factors; as a consequence the achievement of good status has been delayed by one cycle in these water bodies.

Economic Issues

The Directive requires that the programmes of measures selected are cost effective so that improvements are achieved in an economic way. The RBMS has been developed to allow estimates of both cost and effectiveness of individual measures to be recorded and collated (see Section 8). The estimates themselves have evolved based on capital investment programmes already developed by the local authorities and the DEHLG (as part of the National Development Plan and Water Services Investment Programme), past experience of similar measures and expert judgment.

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The Directive requires that a cost/benefit analysis evaluation be carried out to justify any application for an alternative objective for either a time delay or to achieve a lower ecological standard if it is based on economic considerations. The costs and benefits of measures are to be considered in terms of monetary value and social impact.

A cost effectiveness analysis was completed for supplementary measures for the draft Plan to ensure that the supplementary measures selected at that time were cost effective. Following advice from DEHLG's economics specialists, the Eastern River Basin District undertook pilot studies to compare alternative groups of supplementary measures. Four representative water management units were selected: the Blackwater North, Nanny, Shanganagh and Vartry. During the development of this final Plan and after further review of legislation, it has been concluded that many of the measures selected as supplementary would in fact be covered by legislation, such as the Water Pollution Act (soon to be replaced by the Water Services Act), which provides powers to rectify any act of pollution regardless of source. Such measures should not therefore be termed supplementary and instead they are an integral part of the priority actions which define the programmes of measures.

Cost Effectiveness Analysis

The Blackwater North and Nanny catchments are examples of typical rural areas in the Eastern River Basin District, with agricultural production being the primary water pressure. The Blackwater North is located in the north of the area in Counties Meath and Cavan; the Nanny catchment is located mainly in the southern part of County Meath. The Shanganagh catchment is a representative example of an urbanised environment in Dun Laoghaire - Rathdown County Council. The Vartry catchment is a rural mountainous region within County Wicklow; agriculture dominates land use.

For each water management unit, two sets of supplementary measures were identified for comparative analysis. Each set consists of several measures that were selected to deal with the specific pressure in the catchment. The two tables overleaf show the two alternatives and the cost effectiveness for each measure calculated over a 30 year period. This analysis takes account of the discounting of monetary value over time, also costs associated with operations and maintenance, capital replacement and staff time over the full 30 year period.

The tables show how the cost effectivness ratios vary markedly for individual measures. This ratio is a measure of the cost (capital, operations, maintenance and staff) over 30 years compared with the benefit in terms of achieving improvements in water status. In terms of the values, a smaller ratio equates to a more cost effective measure. For example, in the first alternative in Table 10.3, the non capital measures for the Blackwater North, such as restricting cattle access, prove to be the most effective, but capital works for treatment plants less so (by more than one order of magnitude).

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However, the measures should be viewed as a set and so the total cost effectiveness ratios should be compared. If all of the measures for the Blackwater North in Table 10.3 (Alternative 1) are compared with Table 10.4 (Alternative 2) it can be seen that Alternative 1 offers slightly more cost effective measures, but the difference is small compared with the differences of the individual measures. This is true for three of the four pilot studies; the Nanny shows a difference of a factor of two lending some degree of certainty that Alternative 1 offers the more cost effective set of measures in this case.

Figure 10.5 shows the results of phosphorus modelling undertaken by the Eastern River Basin District. The model simulates point sources, topography, land use and soil mineralogy. Water quality models assist in understanding how nutrients migrate to surface waters therefore allowing us to focus measures to the areas where they will be most beneficial and therefore more cost effective. The darker areas in the map below show where the risks of nutrients migrating to surface waters are highest. Conversely, the whiter areas define land where the nutrients will tend to persist in the soils for longer.

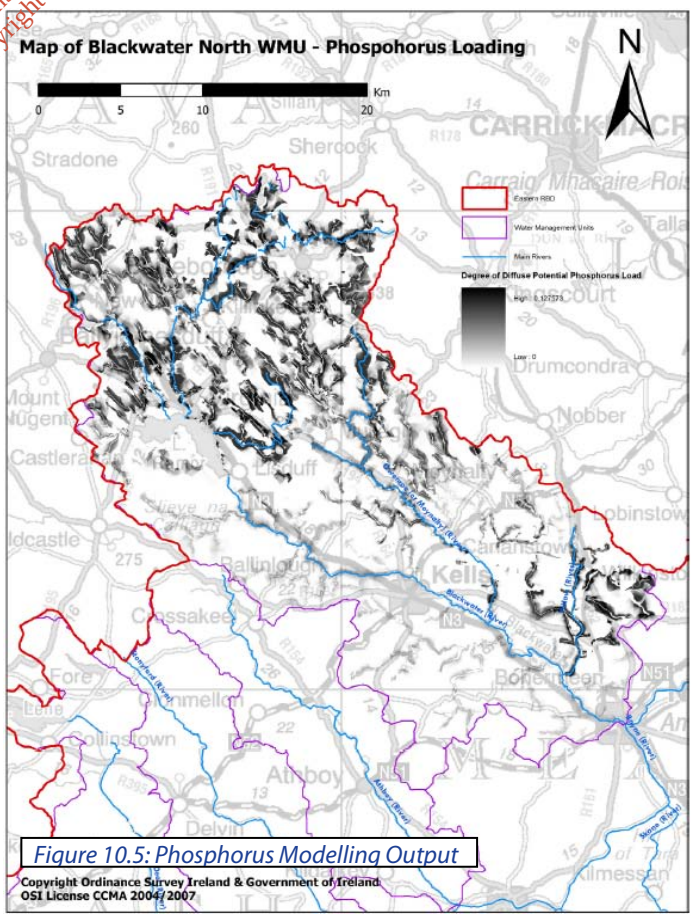


Figure 10.5: Phosphorus Modelling Output

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However, the underlying fact is that the supplementary measures chosen for both alternatives already include a strong element of expert judgment and they are generally less expensive than basic measures. This also results in the variability in cost effectiveness being relatively small.

The information derived from this pilot study has informed the selection of measures in the Eastern River Basin District and allowed us to select both individual and sets of actions for the different types of catchments which offer a cost effective approach to water management. The more cost effective measures have been used widely in similar catchments throughout the Eastern River Basin District, whilst still taking account of pressures in each locality.

Table 10.3: Alternative 1 – Supplementary Measures

Sub-catchment	Supplementary Measure	Cost Effective Ratio
Blackwater North		
Meath	Enforce Regulations on Septic Systems	0.15
	Upgrade WWTW <2000 PE	0.27
	Upgrade WWTW and Collecting Systems <2000 PE	0.65
	Restrict Cattle Access to rivers - Create Cattle Drinking points	0.01
	Implement Upstream Programmes of Measures	0.00
	Tertiary Treatment	0.81
	TOTAL	1.89
Cavan	Enforce Regulations on Septic Systems	0.001
Shanganagh		
Dun Laoghaire Rathdown	GDSDS Compliance - CSOs	5.47
	Investigate and eliminate misconnections	0.49
	Investigate Fats, Oils and Grease issues	0.03
	River Polishing - Reed Bed	0.01
	TOTAL	5.99
Vartry		
Wicklow	Diffuse Runoff (Urban) - Implement SUDS	0.01
	Inspections and Upgrades	0.01
	Mitigate impact of quarry activities	0.00
	Upgrade WWTW and Collecting Systems <2000 PE	1.98
	TOTAL	2.00
Nanny		
Meath	Tertiary Treatment	1.80
	Enforce Regulations on Septic Systems	0.63
	Upgrade WWTW and Collecting Systems <2000 PE	0.26
	Restrict Cattle Access to rivers - Create Cattle Drinking points	0.03
	TOTAL	2.71

Table 10.4: Alternative 2 – Supplementary Measures

Sub-catchment	Supplementary Measure	Cost Effective Ratio
Blackwater North		
Meath	Install sewage systems in rural areas with ICW as tertiary treatment	0.53
	Introduce Integrated Constructed Wetlands where practical to treat polluted river discharges	0.11
	Introduce Agricultural Bye Laws though Water Pollution Act 1977 to eliminate animal access to water courses. Enforce new bye law	0.05
	Farm-Specific Constructed Wetland (Requires Regulatory Site Assessment)	0.29
	Install additional WWTP <PE 2000	0.30
	Digesters for nutrient surplus	0.75
	TOTAL	2.03
Cavan	Provide a grant system for the maintenance and upgrading of septic tanks	1.82
Shanganagh		
Dun Laoghaire Rathdown	GDSDS Compliance & Storm Sewer Separation	6.03
	Site-Specific Riparian Buffer Requirement on Residential Developments	0.54
	Site-Specific Retention Pond for Residential Developments (Requires Regulatory Site Assessment) (per cubic metre capacity)	0.05
	Gullies Management	0.33
	TOTAL	6.96
Vartry		
Wicklow	Create buffer zones and collection systems	0.04
	Provide a grant system for the maintenance and upgrading of septic tanks	0.19
	Mitigate impact of quarry activities	0.00
	Install 2 additional WWTP <2000 PE & Collecting system	2.37
	TOTAL	2.61
Nanny		
Meath	Introduce Agricultural Bye Laws though Water Pollution Act 1977 to ban animal access to water courses. Enforce new bye law	0.08
	Install new sewage systems in rural areas with ICW as tertiary treatment	2.57
	Nutrient removal at WWTP >2000PE	1.80
	Install additional WWTP < 2000PE	1.03
	TOTAL	5.40

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Disproportionate Costs

A detailed cost benefit analysis is required if the Plan proposes to adopt Less Stringent Objectives or a delay in achieving good status on the grounds of cost. In the Eastern River Basin District the Plan:

- Proposes delays in achieving good status because of technical reasons (primarily natural recovery and catchment linkage issues). Cost benefit analyses are not required for these.
- Proposes one water body (Wicklow Central (Avoca)) to have a less stringent objective; it would probably be possible to remedy the problems associated with the landfill site polluting these waters, but it is doubtful if leachate from the disused mine and from the natural fissures and faults could be prevented from continuing to cause a problem. No suitable data is presently available to develop a rigorous cost benefit analysis for this site and the Plan proposes that such a study is undertaken soon after adoption of the Plan. Should the study prove that the costs are not disproportionate then the Plan will be modified in 2015. A qualitative analysis has been undertaken in line with DEHLG guidance and this is presented in Table 10.5 which indicates the very high costs of addressing the problems in this water body; in financial terms the benefits will be considerably lower. Remedying the groundwater body is not the only action required to return the Avoca River to good status so the benefits associated with improved river ecology would not necessarily be accounted in the groundwater cost benefit analysis.
- Proposes to achieve good status in the Avoca River by 2027. This is based on an assumption that the acid mine point source discharges can be successfully treated and that actions to reduce pollution from the spoil tips are also successful. However, the river is connected to the underlying groundwater body which is polluted by mine and landfill waste and it is possible that the impact of this will continue to negatively affect the status of the river. It is recommended that the inter relationships are the subject of a detailed study in the near future and the outcome used to refine the 2015 Plan. Cost benefit analysis is not required for the Avoca River since it is planned to return it to good status by 2027.

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Table 10.5: Avoca Groundwater Body: Cost Benefit Assessment

Cost Element	Impact on achieving good status	Cost Rating
Remediate and reline landfill	High	High
Remediate mine shafts	High	Very High
Continue long term shaft management	High	Very High
Remediate spoil dumps to eliminate infiltration and improve Health and Safety	Medium	High
Habitat destruction	Nil	Nil
Use Value		**Value Rating**
Industrial process	N/A	Medium
Water supply	N/A	Low
River Baseflow*	Medium	High
Human Health and Safety	N/A	High
Biodiversity	Low	High

**Note: if improved baseflow quality proves essential to achieving good status in the River Avoca, then additional benefits would need including such as fisheries, amenity use, etc.*

10.5 Measures Implementation

The full POM will require the implementation of a selection of the hundreds of different actions (Section 9) in all 488 water bodies. It will require funding, staff resources and coordination across several national and local agencies and recognition of fundamental constraints including differing budget cycles. This Plan presents a comprehensive description of what is needed to be done, where, by whom and the priorities, but it cannot address resource allocation. However, clear targets are set for achievement of good status and this should provide guidance for detailed implementation planning.

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We expect to implement many of the measures defined in this plan during the first cycle (before 2015) and to achieve many of the objectives described in Section 6 in a progressive manner as the measures start to take effect. Alternative objectives are proposed for waters where the combination of basic and supplementary measures will not fully achieve the objectives by 2015.

Where it is considered that the objectives can be achieved, but not by 2015, then an explanation and justification is provided. For example, the land acquisition, design, procurement and construction of new treatment works, extensions to treatment works or collection systems can take many years. Similarly, diffuse pollutants and nutrients in agricultural and forestry lands can take several years to be purged from the soils and aquifers even if their use is eliminated or restricted to acceptable levels.

The overall timescale for waters to achieve good status will be dictated by the slowest response to basic and supplementary measures. For example, even if a treatment plant is installed in the first plan cycle, it may take a further cycle for the waters to show improvement in areas with particular types of soil that are also impacted by agricultural activities. Similarly, recovery of groundwater is dictated by flow rates in the aquifers and improvements in these waters will inevitably take many years.

In these cases, we have estimated when compliance will be achieved in the matrix and figures below. It should be emphasised that the Plan includes all necessary actions to achieve the objective of good status – it is just that the effects of these actions will only become evident after several years.

It is important that the Plan is realistic in its targets and so we have tried to identify all waters where recovery is likely to be slow.

One of the problems that we face is addressing the extensive diffuse pollution in the rural areas in the upper parts of the catchments. There are very many farms, septic tanks and forestry areas which will need to achieve compliance with the various standards and this in turn will require an intensive enforcement effort. Realistically this process will take several years and until the water quality improves in the upstream parts of the catchments, those lower down are unlikely to achieve good status. This can be seen in Maps 10.2 to 10.9 which tend to show improvements in the lower reaches of the rivers and in the estuaries over longer periods of time.

Similarly, bog and peat lands introduce nutrients to surface waters in the upper parts of some catchments and this will continue to occur.

A further factor in the delay in achieving good status is the necessity to ensure that the current status is an accurate assessment before expenditure is incurred. The status defined by the EPA is based on limited or absent data for some waters. In the ERBD 221 river water bodies have no surveillance or operational monitoring data and so their status has been based on similar and/or neighbouring waters where data are available. In these cases the first measure will be to gather more data to confirm the assessment and also to determine which pressures are of greatest concern.

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Based on experience and expert judgment and a review of research evidence, we have set out, in Table 10.6, the general reasons for which the timescales for achieving objectives in some waters will have to be extended.

Table 10.6: Overview of Timescales

Key Issue	2015	2021	2027 or likely LSO cases
Wastewater	Waters where upgrades are in place by 2012	Waters where investigations are in place by 2015	Waters where investigations are in place by 2021
Industrial discharges	Majority of waters	Waters where investigations are in place by 2015	
Landfills, quarries, mines and contaminated lands	Majority of waters	Majority of waters	Waters at risk from mine impacts
Agriculture	Water in upstream areas	Waters where measures or investigations are in place by 2015	Waters where measures or investigations are in place by 2021
Wastewater from unsewered properties	Waters where upgrades are in place by 2012	Waters where measures or investigations are in place by 2015	Waters where measures or investigations are in place by 2021
Forestry	Areas replanted in first cycle	Areas replanted in second cycle	Areas replanted in third cycle or post 2027
Dangerous substances & chemical pollution	Majority of waters	Waters where investigations are in place by 2015	

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Key Issue	2015	2021	2027 or likely LSO cases
Physical modifications	Majority of waters	Waters where remediation schemes are in place by 2015	Waters where remediation schemes are in place by 2021
Abstractions	Majority of waters	Waters where remediation schemes are in place by 2015	Waters where remediation schemes are in place by 2021

The recommended exemptions are listed in Table 10.7 below. The Target Date column in the table represents the date of achievement of good status. Our rivers have been grouped into river sub-catchments (as shown on Map 9.1). Dates within these groups vary and the latest target date for each group is given below.

Table 10.7: Overview of Exemptions

Water body	Water Body Type	Alternative Objective Type	WFD Section 4 (a)	Reason
Dublin Bay	Coastal	2027	Technical feasibility	Upstream diffuse agricultural, septic tank and urban pollution; flood defences; upstream point source pollution
Irish Sea Dublin (HA 09)	Coastal	2021	Technical feasibility	Require more monitoring data for status. Upstream transitional water body exemption = 2027. Future Modification - Dune Stabilisation.
Malahide Bay	Coastal	2027	Technical feasibility	Upstream diffuse agricultural and septic tank pollution, WWTP's upstream
Rockabill	Coastal	2021	Technical feasibility	Require more monitoring data
Southwestern Irish Sea - Brittas Bay (HA 10)	Coastal	2021	Technical feasibility	Require monitoring data for status.
Bettystown	Groundwater	2027	Technical feasibility	EPA: Chemical Status=Poor, Diffuse pollution from Quarry. Abstraction. River water body less then good status.
Boyle_CL	Groundwater	2027	Technical feasibility	EPA: Overall Chemical Status=Poor Contaminated Land, River water body status less then good.
Drogheda	Groundwater	2027	Technical feasibility	EPA: Chemical Status=Poor. Abstraction. Diffuse pollution from Quarry. River water body less then good status.
Drogheda Urban	Groundwater	2027	Technical feasibility	EPA: Overall Chemical Status=Poor. Diffuse Urban Pollution
Drogheda_LF	Groundwater	2027	Technical feasibility	EPA: Overall Chemical Status=Poor. Land fill, Diffuse urban pollution. River water body less then good status.
Lough Lene	Groundwater	2027	Technical feasibility	EPA: Chemical Status=Poor. River water body less the good status.
Lusk-Bog of the Ring	Groundwater	2021	Technical feasibility	EPA: Quantitative Status=Poor. At risk from abstraction.
Wicklow Central (Avoca Mine)	Groundwater	LSO	Technical feasibility	Diffuse Mine
Ben Lough	Lake	2021	Technical feasibility	Desktop status. Require more monitoring data.
Golden Falls Reservoir	Lake	2021	Technical feasibility	River water segment - 09_1870 exemption 2021.
Leixlip Liffey Reservoir	Lake	2021	Technical feasibility	Desktop status - Require more monitoring data for status. Upstream river subcatchment = Poor, Exemption = 2021.
Pollaphuca Reservoir	Lake	2021	Technical feasibility	Macrophytes old. Upstream river subcatchment status = Poor, Exemption = 2021.
Ramor (Lough)	Lake	2027	Technical feasibility, Disproportionately expensive.	Point Sources, diffuse agricultural pollution. Macrophytes, Chlorophyll (poor), Nutrients - Total Phosphorus. Upstream river sub catchment status = Poor, Exemption = 2027. EPA comment: ERBD_RBMP_050_c023
Athboy WMU	River	2027	Technical feasibility	Point source, diffuse agricultural pollution. Extrapolated sub-catchments - need more data.
Avoca WMU	River	2027	Technical feasibility	Diffuse Mine pollution. Extrapolated sub-catchments - need more data.

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Water body	Water Body Type	Alternative Objective Type	WFD Section 4 (a)	Reason
Ballyboghil WMU	River	2021	Technical feasibility	Diffuse agricultural and septic tank pollution
Baltray WMU	River	2021	Technical feasibility	Extrapolated sub-catchments - need more data.
Blackwater North WMU	River	2027	Technical feasibility	Diffuse agricultural and septic tank pollution, point source pollution. Extrapolated sub-catchments - need more data.
Blackwater South WMU	River	2027	Technical feasibility	Diffuse agricultural and septic tank pollution. Extrapolated sub-catchments - need more data.
Boyne Lower WMU	River	2027	Technical feasibility	Upstream diffuse agricultural, septic tank and landfill pollution. Extrapolated sub-catchments - need more data.
Boyne Upper WMU	River	2027	Technical feasibility, Natural Conditions	Due to peatlands: naturally occurring ammonia. Diffuse agricultural and wastewater point source pollution. Extrapolated sub-catchments - need more data.
Broadmeadow WMU	River	2027	Technical feasibility, Natural Conditions	Diffuse septic tank, diffuse urban pollution, naturally high level of nutrients in ground. Extrapolated sub-catchments - need more data.
Cammock WMU	River	2027	Technical feasibility	Urban Diffuse pollution
Dargle WMU	River	2027	Technical feasibility	Point source pollution and urban diffuse pollution. Extrapolated sub-catchments - need more data.
Deel WMU	River	2027	Technical feasibility	Diffuse agricultural and septic tank pollution, wastewater point source pollution. Extrapolated sub-catchments - need more data.
Delvin WMU	River	2027	Technical feasibility	Septic tank pollution and vulnerable ground conditions. Extrapolated sub-catchments - need more data.
Devlin (Mattock) WMU	River	2027	Technical feasibility	Diffuse agricultural and septic tank pollution. Extrapolated sub-catchments - need more data.
Dodder WMU	River	2027	Technical feasibility	Urban Diffuse Pollution. Extrapolated sub-catchments - need more data.
Liffey WMU	River	2027	Technical feasibility	Diffuse agricultural pollution. Extrapolated sub-catchments - need more data.
Lusk WMU	River	2027	Technical feasibility	Extrapolated sub-catchments - need more data.
Mosney WMU	River	2021	Technical feasibility	Diffuse agricultural and septic tank pollution
Nanny WMU	River	2027	Technical feasibility, Natural Conditions	Wastewater point source pollution and naturally high level of nutrients in the ground. Extrapolated sub-catchments - need more data.
Newcastle WMU	River	2027	Technical feasibility	Diffuse agricultural, septic tank pollution and wastewater point source pollution. Extrapolated sub-catchments - need more data.
Potters WMU	River	2021	Technical feasibility	Diffuse agricultural and septic tank pollution
Rathnew WMU	River	2027	Technical feasibility	Extrapolated sub-catchments - need more data.
Ryewater WMU	River	2027	Technical feasibility, Natural Conditions	Diffuse agricultural, septic tank pollution and naturally high level of nutrients. Extrapolated sub-catchments - need more data.
Santry Mayne Sluice WMU	River	2027	Technical feasibility	Diffuse urban pollution
Shanganagh WMU	River	2021	Technical feasibility	Wastewater point source pollution
Stonyford WMU	River	2021	Technical feasibility	Diffuse agricultural pollution and wastewater points source pollution
Tolka WMU	River	2027	Technical feasibility	Diffuse agricultural, septic tank pollution and urban diffuse pollution. Extrapolated sub-catchments - need more data.
Vartry WMU	River	2021	Technical feasibility	Extrapolated sub-catchments - need more data.
Avoca Estuary	Transitional	2027	Technical feasibility	Upstream diffuse mine pollution
Boyne Estuary	Transitional	2027	Technical feasibility	Upstream diffuse agricultural and septic tank pollution, Future modification - Rail line
Broad Lough	Transitional	2021	Technical feasibility	Upstream diffuse agricultural and septic tank pollution

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Water body	Water Body Type	Alternative Objective Type	WFD Section 4 (a)	Reason
Broadmeadow Water	Transitional	2027	Technical feasibility	Upstream diffuse agricultural and septic tank pollution. Future modifications - Flood defences
Dargle Estuary	Transitional	2021	Technical feasibility	Require monitoring data for Status.
Kilcoole Marsh	Transitional	2021	Technical feasibility	Require more monitoring data for Status. Upstream River exemption until 2021. Upstream diffuse agricultural and septic tank pollution
Liffey Estuary Lower	Transitional	2027	Technical feasibility	Upstream diffuse agricultural, septic tank and urban diffuse pollution. Future modification - Flood Defences
Liffey Estuary Upper	Transitional	2027	Technical feasibility	Upstream diffuse agricultural, septic tank and urban diffuse pollution. Future Modification-Flood Defences
Mayne Estuary	Transitional	2027	Technical feasibility	Require monitoring data for status. Upstream river exemption until 2027. Upstream diffuse agricultural, septic tank and urban diffuse pollution. Future Modification - Coastal Protection
Nanny Estuary	Transitional	2027	Technical feasibility, Natural Conditions	Upstream river exemption until 2027. Require monitoring data for status. Upstream diffuse agricultural, septic tank and urban diffuse pollution. Naturally high concentration of upstream nutrients
North Bull Island	Transitional	2027	Technical feasibility	Require monitoring data for status. Upstream river exemption until 2027. Upstream urban diffuse pollution, Future Modifications-Flood Defence
Rogerstown Estuary	Transitional	2021	Technical feasibility	Upstream river exemption until 2021. Upstream diffuse agricultural and septic tank pollution. Future Modifications - Flood Defence
Tolka Estuary	Transitional	2027	Technical feasibility	Upstream river exemption until 2027. Upstream diffuse agricultural and septic tank pollution

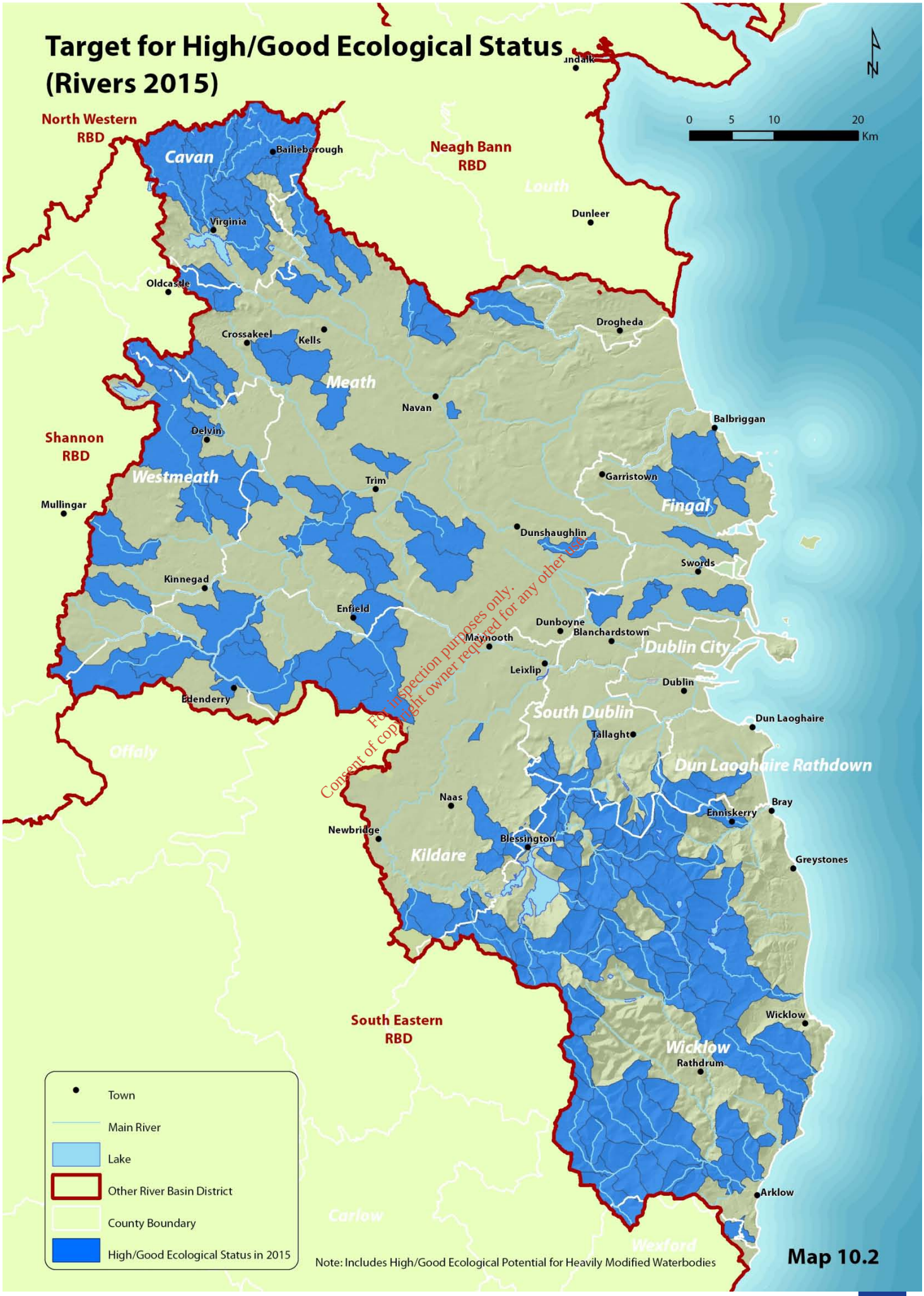
*Article 4 of the WFD sets out the environmental objectives and is clear that where several exist the most stringent will apply. It recognizes the special cases of Heavily Modified and Artificial water bodies and sets out specific objectives for these. In addition, exemptions are permissible based on:

- Extensions of deadline; the Directive Article 4 (4)(a) permits exemptions to this objective on the basis that:
- *the scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;*
- *completing the improvements within the timescale would be disproportionately expensive;*
- *natural conditions do not allow timely improvement in the status of the body of water.*
- Less stringent objectives; …..*when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive;*
- Temporary deteriorations; ….*if this is the result of circumstances of natural cause or force majeure which are exceptional or could not reasonably have been foreseen*…. ; and
- New modifications; …..*those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option……*

Note: text in italics above is from the WFD

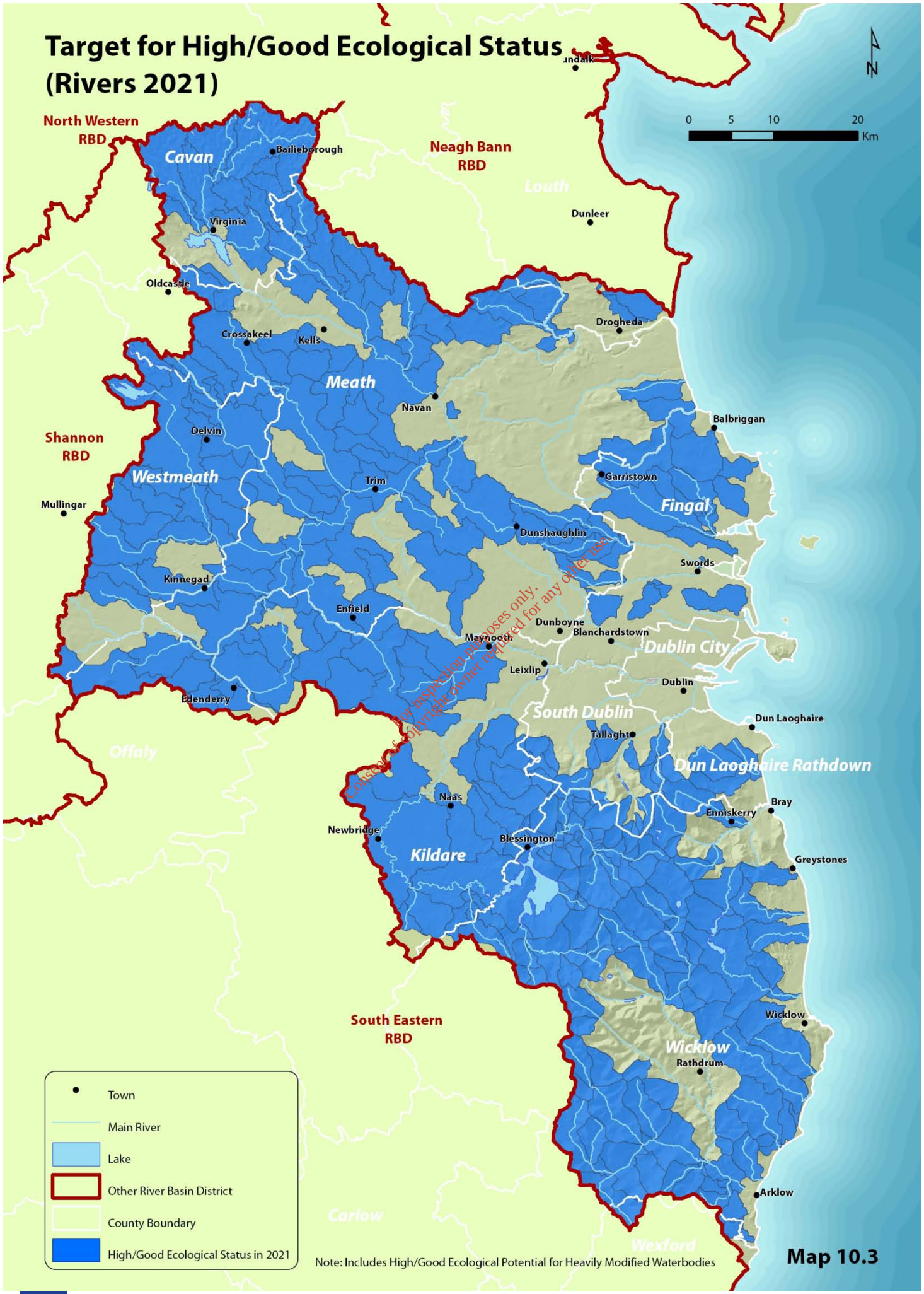
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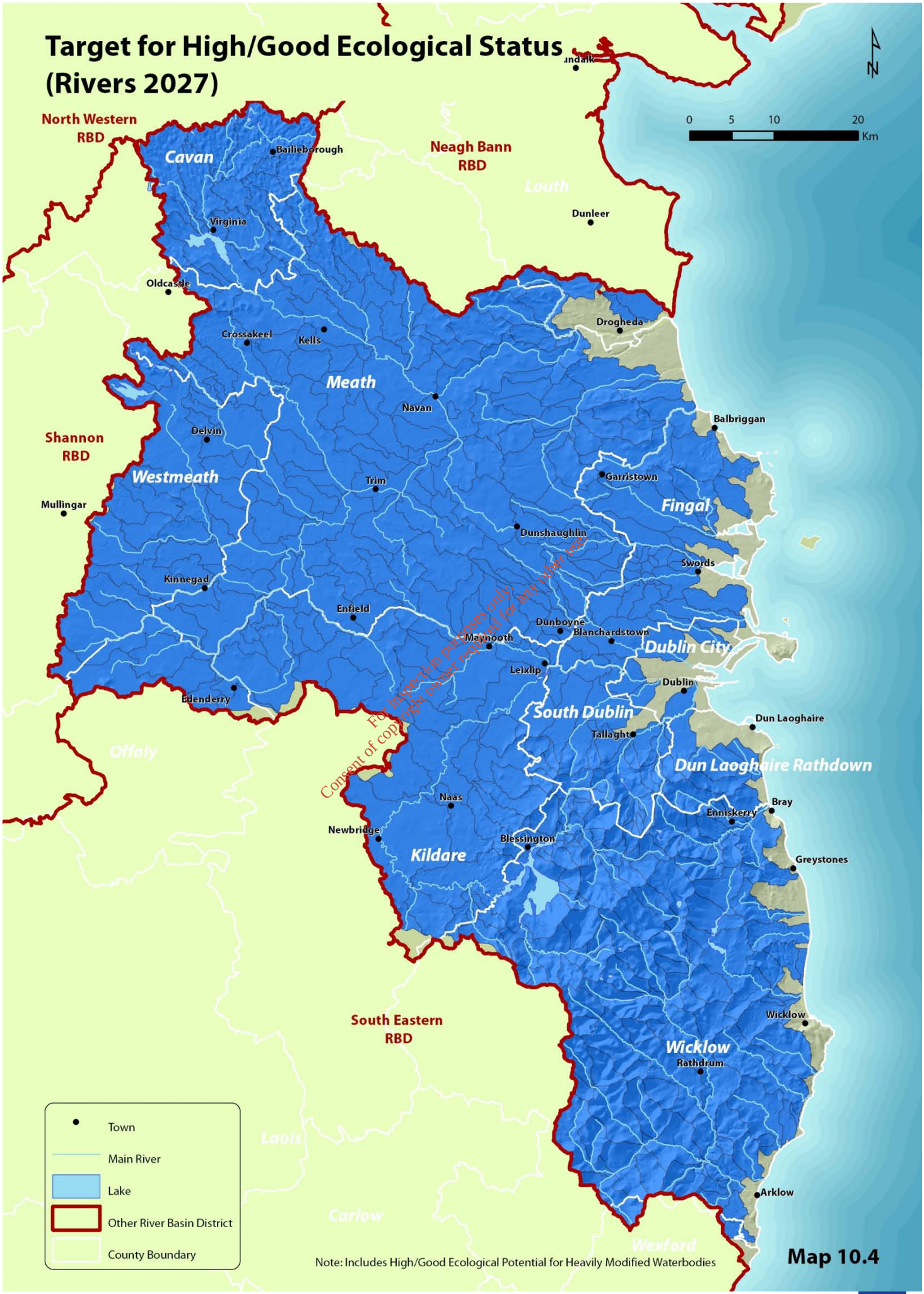
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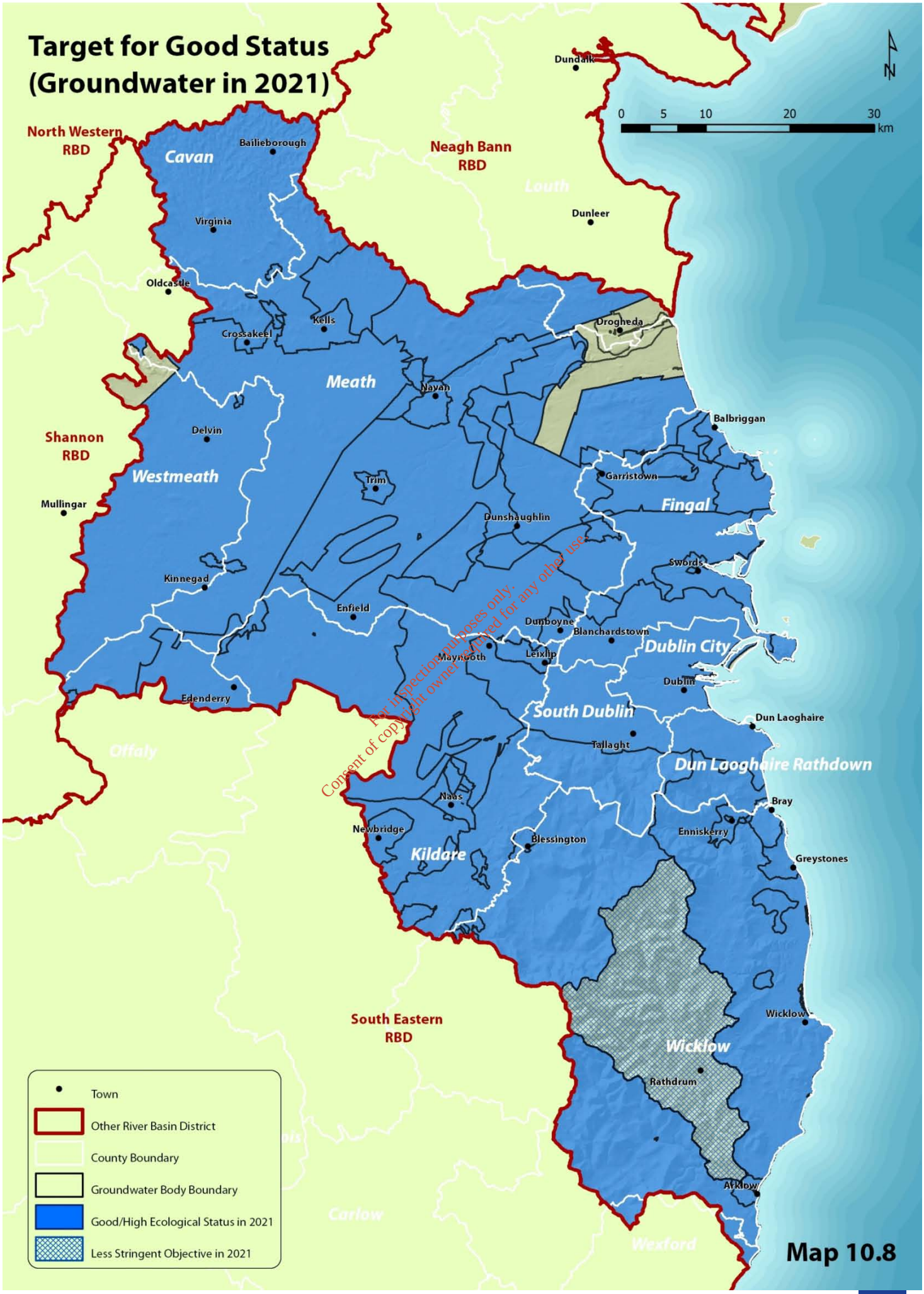
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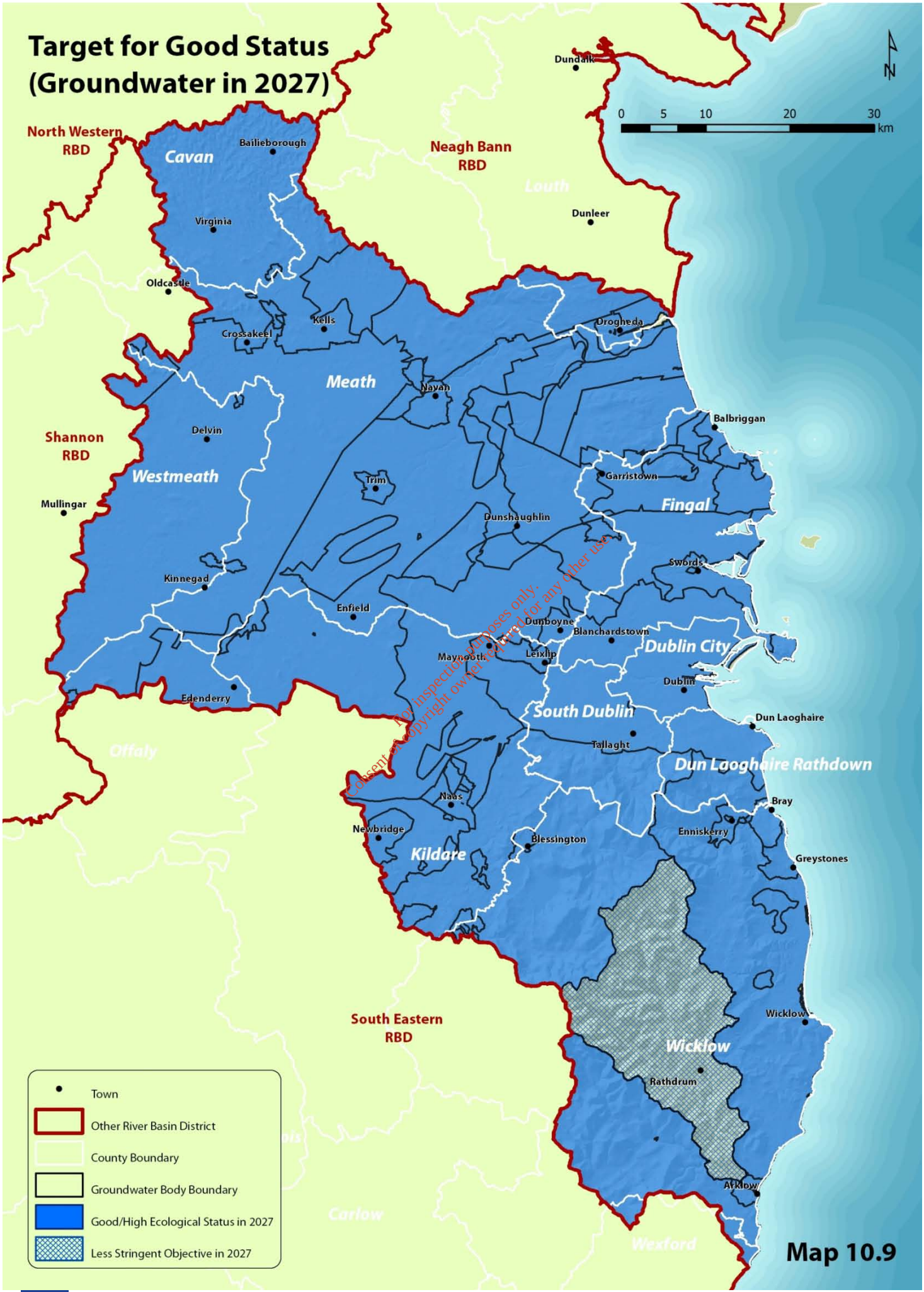
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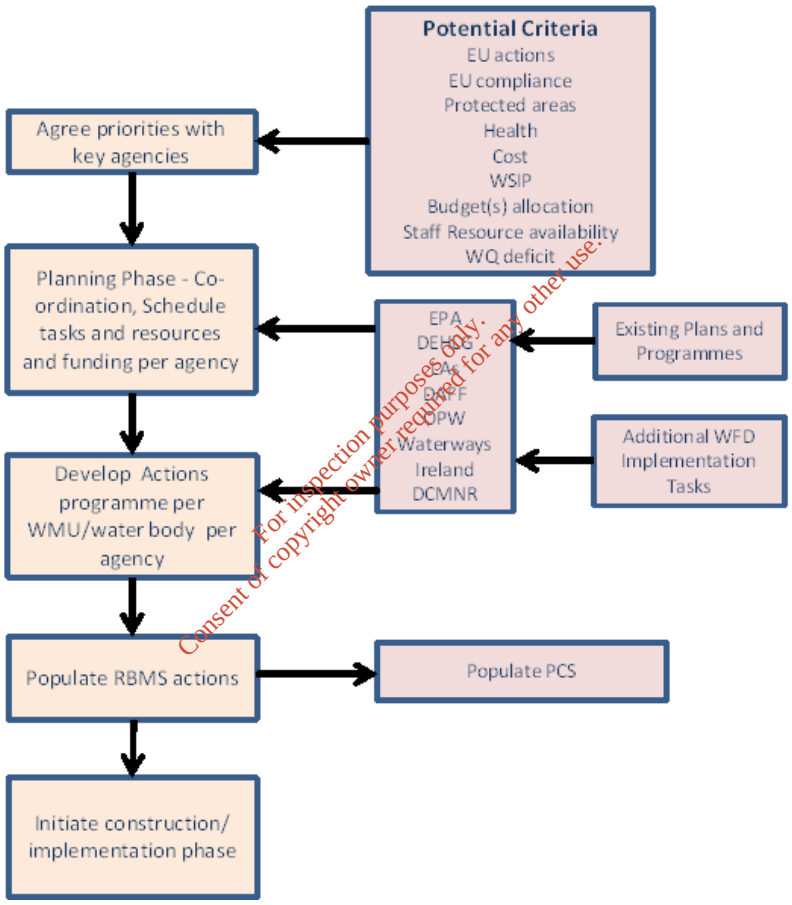
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A work programme of this scale will require detailed planning and management and a series of steps are suggested (see Figure 10.12):

- The Plan identifies which waters will achieve good status first, but other priorities may be considered imperative and these should be reviewed in detail at water body level;
- Once the priorities are finalised the responsibilities of each agency need careful definition and acceptance;
- Actions under existing plans and programmes within each agency should be fully integrated into the WFD POM;
- A coordinated programme of work should then be developed and agreed; funding and scheduling within and between agencies would be required;
- The measures should be broken down into actions for each agency for each water body;
- The actions should be scheduled and allocated (within the RBMS environment);
- Linkage would be needed with the WSIP management system; and
- Measures should then be undertaken.

Figure 10.12: Prioritisation of Measures Implementation



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10.6 Prioritisation

The CIS is clear that good status will not be achieved during the first planning cycle in all waters and that the implementation of measures will inevitably have to be prioritised. There are many criteria which should influence this priority setting, many of which are matters for government and society; these might include:

- Compliance with EU Directives;
- Protection and enhancement of protected areas;
- Human health;
- Cost;
- Integration with the Water Services Investment Programme;
- Budget(s) allocation;
- Staff Resource availability; and
- WQ deficit

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In this Plan the criteria have been limited to a rational approach to protecting and improving our waters based on water status and catchment management principles. In 2008 a workshop with all of the Local Authorities in the Eastern River Basin District reviewed the existing condition of each water management unit or water body and the pressures affecting it. Neighbouring authorities developed an approach as to which waters would be expected to be improved first based on the nature and scale of pressures affecting them.

There was agreement to start this process at the top of the catchments and then to recognise that waters not achieving good status by 2015 for reasons of either natural recovery or programming would detrimentally affect downstream waters and so these would be expected to improved at a later date. In the rural areas the local authorities should co-ordinate their farm inspection programmes so that catchments which include land in multiple administrative areas are simultaneously targeted. This will facilitate the control of agricultural wastes and should be addressed as part of the measures implementation planning work and in conjunction with the EPA and DAFF.

The outcome of this workshop was a clear definition of which waters would be improved in each planning cycle, with steady progress through until 2027. By 2015 it was expected that 61.5% of our waters would be at good status (improved from 45.5% in 2007). It was felt that this level of ambition was realistic and rational.

Revised status information and acceptance that significant numbers of status estimates are based on inadequate data has prompted the need to increase the amount of monitoring as the first action in many water bodies; this has reduced the numbers of water bodies now expected to achieve good status in 2015 to 55.3%.

The Irish government intends to set up a high level committee of major stakeholders to consider the whole issue of prioritisation in the autumn of 2009 and so some further modifications to this target should be expected. For example, measures to protect drinking waters should be one of the higher priorities and measures in accordance with a drinking Water Safety Plan approach implemented in water source areas first.

10.7 Programming

The programming of implementation should follow the prioritisation criteria developed in this Plan, as modified by the DEHLG committee. With several agencies involved, 488 water bodies to address and very many measures it is anticipated that this will be a complex task requiring extensive consultation and collaborative working. Measures need to be effective by 2015 for many water bodies and the full POM should be implemented by 2012. It is recommended that the lead authority initiates this process as a matter of urgency with the objective of having a draft implementation plan prepared in early 2010 so that the first actions can be taken at that time. Subsequent refinement can then be accommodated in later actions during 2010 and 2011.

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It is further recommended that sub catchment committees are established to monitor progress and encourage local interest and participation which will be particularly important in helping to address diffuse sources. Ideally, these groups should be comprised of key stakeholders but also a strong cross section of the public.

10.8 Pilots

The ERBD project has undertaken extensive local scale investigations in selected areas to better understand the waters and the pressures affecting them. These studies have been extremely enlightening and demonstrated the importance of having detailed and accurate information before initiating expensive programmes of measures. These pilots have found very many small scale point sources in the upper catchments which together contribute significantly to pollution in rural areas. Other pilots have investigated the effects of septic tanks on poorly draining soils, pollution risk in drinking water catchments and the effects of combined sewer outfalls on estuary water quality.

These investigative pilot studies have been acknowledged by the EPA and Local Authorities as being of high value; the involvement in several Local Authorities in each pilot has also started the process of catchment based management rather than in administrative areas.

It is recommended that this pilot approach be extended into the measures implementation phase and that sub catchments with differing characteristics and problems are targeted early in 2010 to test the veracity of the POMS prior to widespread implementation. Logically, these pilot catchments would follow the investigative pilots and those sub catchments targeted for improvement by 2015. Suggested pilot projects are presented in Section 12.

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11 Strategic Environmental Assessment

An Environmental Report has been prepared as part of the Strategic Environmental Assessment of the River Basin Management Plan and Programme of Measures (POM) for the Eastern River Basin District (ERBD) in accordance with national and EU legislation. This is presented here and has been carried out as part of the North South Share Project and the full Strategic Environmental Assessment and supporting documents can be downloaded from www.wfdireland.ie.

11.1 What is Strategic Environmental Assessment?

Strategic Environmental Assessment (SEA) is a systematic method of considering the likely significant environmental effects of a Plan or Programme by integrating environmental factors into the development of the Plan and related decision-making. The purpose of this SEA is to ensure that the environmental consequences of the RBMP and POM for the ERBD are assessed both during their preparation and prior to adoption. The SEA ensures that the Plan and POM are as robust as possible in the context of the wider environment.

What is involved in SEA?

There are four main steps in the SEA Process

1. Screening – Is an SEA needed?
2. Scoping – What should it include?
3. Environmental Assessment and Report – What are the potential environmental impacts of the draft Plan and its alternatives?
4. SEA Statement – How has the SEA influenced the adopted Plan?



We are currently at the SEA Statement stage of the process for the Plan and POM. The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, the views of consultees and the recommendations of the Environmental Report have been taken into account in the Plan and POM for the Eastern River Basin District. It also illustrates how decisions were taken, thereby making the process more transparent. An SEA Statement will be made available to the public to accompany the Plan and POM.

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How does the Habitats Directive fit into the process?

In addition to the SEA process influencing the development of the Plan and POM, a related assessment under the EU Habitats Directive (92/43/EEC) was also undertaken as part of the overall plan development and SEA. The SEA Directive and Habitats Directive are broadly complementary pieces of legislation, albeit with one focused at a broad (SEA), as opposed to a narrow (Habitats), interpretation of *"environment"*.

While SEA looks at the wider environment, the Habitats Directive is focused on impacts to Natura 2000 sites (i.e. SACs and SPAs) and the features for which that site was designated. The Habitats Directive Assessment (HDA) ran in conjunction with the SEA and Plan making processes to ensure that appropriate consideration was given to Natura 2000 sites throughout the development of the RBMP and POM for the ERBD. The findings from the HDA have been fully integrated into the SEA Environmental Report and these in turn have been integrated into the RBMP and POM for the ERBD.

Who carried out the SEA?

The SEA for the Plan and POM was carried out by a team of SEA experts, supplemented by ecological experts in relation to the HDA. This team was directed by a River Basin Management Plan and Programme of Measures Strategic Environmental Assessment Steering Group, with representatives from all eight River Basin Districts (RBDs) on the island of Ireland and also representatives from the statutory bodies for SEA in Ireland and Northern Ireland (EPA, DoEHLG, DCENR and NIEA).

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11.2 What has happened to date?

Following screening by the competent authorities, in consultation with the statutory bodies for SEA in Ireland and Northern Ireland, it was determined that an SEA was required for each of the Plans and POMs on the island of Ireland (eight in total). Scoping of the content and level of detail to be included in the environmental report was subsequently undertaken for each of the individual RBDs, again in consultation with the statutory bodies and with guidance from the Steering Group. The SEA Scoping Document for the Eastern RBMP and POM is available at www.erbd.ie/.



An Environmental Report was then prepared for the draft Plan and POM for the ERBD in accordance with national and EU legislation. The purpose of this Environmental Report was to:

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



The draft Plan, POM and Environmental Report were placed on public display from December 22, 2008 to June 22, 2009. Open days were held at a number of venues (see below) where representatives from the Plan team and the SEA team were available to answer questions on the various documents and generally inform the public of the purpose of the RBMP and POM for the ERBD and also the purpose of the SEA and HDA.

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- Dublin City Civic Offices, Dublin 06-May-09
- Solstice Centre, Navan 11-May-09
- Aras Chill Dara, Naas 12-May-09
- County Library, Tallaght 13-May-09
- County Buildings, Wicklow County Council, Wicklow 14-May-09
- County Buildings, Fingal County Council, Swords 12-Jun-09

How have the SEA and HDA influenced the Eastern RBMP and POM?

The SEA and HDA were ongoing throughout the development of the draft Eastern RBMP and POM, 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 Plan and POM, SEA and HDA;
- Early identification of environmental sensitivities in the ERBD in order to amend the draft Plan 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; and
- Development of a monitoring plan to track the environmental performance of the final RBMP and POM once implemented.

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What alternatives were considered in the SEA?

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 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.

The main alternatives scenarios considered 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;
- Business as Usual plus – i.e. as above but with other required measures noted in Article 11(3) of the WFD; and
- Individual Supplementary Measures.

Which alternatives were assessed?

The "Business as Usual" measures were initially sieved to focus the assessment on elements that could be reasonably assessed. For example, general requirements for further education and awareness campaigns or additional monitoring were not assessed; however, possible changes to land use planning or introduction of specific infrastructural requirements were assessed. The "Business as Usual plus" measures were all assessed; however, this was confined to quantitative assessment due to lack of specific detail that would allow quantification.

Prior to assessment, the individual supplementary measures were grouped by pressure and categorised broadly as measures that will either:

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

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What type of assessment was carried out?

The approach used for assessing the alternatives is termed an 'objectives led assessment'. In this case, each of the alternatives considered were tested against defined SEA Environmental Objectives (as listed in Table 11.1), 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. For each environmental topic area an objective was developed which expressed a desired direction of change based on the current state of the environment in Ireland (relevant to water management) and with reference to other relevant national and EU plans, programmes and legislation. The Environmental Objectives also took account of the scoping and consultation feedback and the outcome of a Workshop held between the SEA team and the Steering Group. A matrix format was used for the assessment, which permitted a systematic approach and also permitted comparison of alternatives.

Table 11.1 Environmental Objectives

Objective 1 (Biodiversity, Flora and Fauna)	Prevent damage to terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species.
Objective 2 (Population)	Contribute to sustainable development.
Objective 3 (Human Health)	Protect and reduce risk to human health in undertaking water management activities.
Objective 4 (Soil)	Avoid damage to the function and quality of the soil resource in the River Basin District.
Objective 5 (Water)	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 (Air Quality)	Minimise emissions to air as a result of Plan activities.
Objective 7 (Climatic Factors)	Minimise contribution to climate change by emission of greenhouse gasses associated with Plan implementation.
Objective 8 (Material Assets 1)	Maintain level of protection provided by existing morphological infrastructure, e.g. flood defences, coastal barriers, groynes, etc.
Objective 9 (Material Assets 2)	Provide new and upgrade existing water management infrastructure to protect human health and ecological status of water bodies.
Objective 10 (Material Assets 3)	Support economic activities within the District without conflicting with the objectives of the WFD.
Objective 11 (Material Assets 4)	Protect water as an economic resource.
Objective 12 (Cultural Heritage)	Avoid damage to cultural heritage resources in the River Basin District.
Objective 13 (Landscape)	Avoid damage to designated landscapes in the River Basin District.

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11.3 How have identified impacts been mitigated?

As part of the Environmental Report, an extensive list of mitigation measures was proposed for incorporation in the final Plan and POM. These mitigation measures were based on the findings from both the SEA and the HDA. The Plan team considered these mitigation measures during the consultation period. The relevant mitigation has been identified which pertains to measures being included in the final Plan and POM following changes made after close of the consultation period. Table 11.2 at the end of this chapter outlines the various mitigation measures to be put in place as part of the implementation process and links them with the relevant Basic and Supplementary Measures included in the Plan and POM .

11.4 What are the overall conclusions of the SEA and HDA?

At the broad level, implementation of the Plan is expected to bring environmental improvements, since it tackles specific pressures on water quality. However, there are some cases where negative impacts may arise in the wider environment (Table 11.2). As stated above, the SEA and HDA have identified such areas and recommended mitigation measures to reduce or eliminate the impact. This mitigation has been brought forward into the final Plan and POM in order to ensure that there is a balanced response to environmental impacts.

11.5 How will future impacts be monitored?

Linked with the SEA Environmental Objectives are Targets and Indicators, which will be used to monitor the impact of the Plan on the wider environment going forward. A great deal of consideration was put into choosing the objectives, targets and indicators as they not only form the basis of the assessment (objectives) but also present the opportunity to check that the Plan is not resulting in unforeseen impacts on the environment (monitoring of indicators). If monitoring indicates a problem it is intended that the responsible authorities will review the measure causing the problem and adjust its implementation, if required. It is also envisioned that the information gathered on the progress towards achieving the objectives and targets will be used as a benchmark for the SEA of the Eastern RBMP and POM when it is updated prior to the second cycle (2016 to 2021).

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11.6 How were submissions taken into account?

The Plan, SEA and HDA teams have reviewed the submissions and observations received over the 6-month consultation period. Where new measures are proposed for inclusion in the final Plan and POM the SEA team has carried out a screening of the measure to determine if there is potential to impact on the wider environment. These screenings are included in the SEA Statement. Where key issues, such as the remediation of the Avoca River, have been raised in submissions / observations, the Plan team has clarified the reasons for change / non-change in the final Eastern RBMP and POM and this is discussed in the SEA Statement.

What was the influence of submissions on the final Plan and POM?

The SEA Environmental Report and HDA Report were available for public consultation alongside the draft Plan and POM for the ERBD. A review of the submissions on all three documents has been carried out. A total of 66 submissions were received in relation to the Plan and POM including submissions from various interest groups (e.g. EPA, SWAN, IFA, IBEC), anglers, statutory bodies and individual members of the public. The comments made in the submissions received on the three documents were used to refine/amend the contents of the final Plan and POM. The influence of the submissions / observations on the final Plan is discussed in detail in the SEA Statement, which is being published alongside the adopted RBMP and POM for the ERBD. Some of the main issues relevant to the SEA related to the following:

- Suggested amendments to wording in the Plan and / or SEA Environmental Report;
- Impacts of supplementary agricultural measures on farm incomes;
- Suggested potential new measures for inclusion in the final Plan;
- Importance of Dublin and Drogheda Ports;
- Placement of pesticides and plant protection products under the pressure heading of Dangerous Substances;
- Conflicts between aquatic biodiversity and other environmental interests;
- Impacts of the River Liffey Act;
- Remediation of the Avoca River;
- Cumulative impacts of the Plan; and
- Clarification on how mitigation will be brought forward in the Plan.

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Have measures been added / removed following close of consultation?

The Plan team has included three new measures in the POM for the ERBD to further assist in achieving Good Ecological Status by improving the riverine habitat for all trophic levels of the aquatic foodchain. These are:

- Take account of, where appropriate, measures from the Delvin Catchment Report;
- Improve river habitats; and
- Investigate and monitor legacy landfills.

The measures referred to in relation to the Delvin Catchment Report include the following:

- Restore channelised sections to natural river course and habitat;
- Install natural revetment along heavily eroded sections of the river, e.g. quarry site near the Naul;
- Review river and tributary maintenance operations;
- Manage and expand riverside tree cover;
- Install/Restore salmonid spawning grounds;
- Install permanent water quality dataloggers;
- Establish wildlife corridor along the Delvin River; and
- Control invasive species Japanese Knotweed, Giant Hogweed and Cherry Laurel.

These new measures have been reviewed and discussed with the Plan team and have been subject to a screening exercise to identify potential impacts on the wider environment. The result of the screening exercise found that it is unlikely that these new measures would result in significant environmental impacts outside of those already identified in the Environmental Report; therefore, additional assessment is not deemed to be required. A discussion of the screening exercise is included in the SEA Statement.

In addition, there are a number of mitigation measures recommended in the Environmental Report that are linked with measures put forward as part of the Plan-making processes in other RBDs on the island. While this mitigation may not link directly with measures included in the Plan and POM for the ERBD, they have been carried forward into the final RBMP and POM for the ERBD as they represent several valuable proposals that should be included in the RBMP and POM. These additional measures are:

- A programme of education and awareness is needed to tackle improper and illegal disposal of waste to support the reduction of pollution from these sources. A campaign to reduce the illegal disposal of waste is recommended, as this would have particular benefit for protected areas, which tend to be remote rural areas, e.g. bogs, used for illegal disposal of unwanted materials (SEA OP2/OP4).
- Though there are agricultural supplementary measures which specifically call for restriction of cattle access and provision of riparian buffers, there is not a measure which specifically calls for reduction in agricultural intensity or set aside of agricultural land. Should the agricultural measures result in a reduction in agricultural intensity, including lower stocking density or land reclamation, or the set aside of agricultural land, then a Habitats Directive Assessment would be required to determine if these activities would result in impacts to protected sites or species. In addition, set aside of lands shall only be implemented in combination with appropriate guidance for agricultural lands within or adjacent to protected areas (spraying of pesticides is the key concern) (SEA AG4/AG6).
- An information and advice campaign targeted at farmers should be implemented on a national scale. This should focus on prevention first followed by Best Management Practices as core themes. It will be important that adequate consideration is given not just to water and biodiversity but also soils and cultural heritage, as a narrowly focussed approach may lead to indirect negative impacts on these areas. It is also recommended that information campaigns highlight best practice in the sector in order to demonstrate that an economically viable farming operation is possible within such schemes. Opportunities for agri-tourism should also be highlighted as a way to supplement farm income while protecting the environment. This guidance shall also include information relating to implementation in areas protected for biodiversity. To ensure that farmers are aware of the issues associated with the use of pesticides, including information on the Nation Action Plan on Sustainable Use of Pesticides, it is recommended that this issue be included in this information and advice campaign. In addition, to ensure that farmers are aware of the different legislation applied to agriculture and the requirements/issues associated with these, it is recommended that this information be included as well (SEA AG8).
- A focussed awareness campaign on water use and the value of water should be implemented to reduce the volumes of water used / wasted, followed by leakage improvement and only then new infrastructure. Any new infrastructure, e.g. storage, should source its fuel from renewable sources (SEA AB ALL).
- It is recommended that the Planning Authority, in directing or restricting development take account not only of the water capacity of an area but its wider capacity in terms of cultural heritage, biodiversity and landscape, etc. In addition, Habitats Directive Assessment should be considered for new abstractions in line with the requirements of the Habitats Directive (SEA AB14).

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The Environmental Report also put forward a new measure for consideration for inclusion in the Plan and POM. This is SEA Measure WW6, which includes provision for: Reduction in pollution at source through education campaigns. This campaign should include information on the use and disposal of household chemicals, oils, detergents, paints, solvents, etc as well as information on phosphorus related pollution. Consideration should also be given to targeting specific audiences on issues such as location of septic tanks, discharges to water and the importance of wetland sites to water quality. This measure has also been carried forward into the final Plan and POM and can be found in Section 7.

In addition to the mitigation measures to address the proposed Supplementary Measures, the Environmental Report and HDA Report also included the provision of mitigation measures to address impacts resulting from the implementation of elements included in the Other Basic Measures. These are as follows:

Abstraction and impoundment control	Controls on abstraction and impoundment should be screened to determine if potential exists for impacts to a Natura 2000/Ramsar site.
Point source and diffuse source discharge controls	When specific details on these are available it is highly recommended that they are screened to determine if potential exists for impacts to a Natura 2000/Ramsar site. Detailed assessment of higher risk works will include environmental considerations (based on EIA guidance). It is also recommended that lower risk work should be compelled to consider environmental issues as part of the registration process.
Controls on physical modifications to surface waters	Controls must include consideration of the requirements for Natura 2000/Ramsar sites. It is recommended that future assessment on the impacts on the wider environment is carried out once measures are defined.
Prevention or reduction of the impact of accidental pollution incidents	Where controls are to be put in place for emergencies, and these might include the construction of infrastructure, such as flood defences, then these should be screened to determine if potential exists for impacts to a Natura 2000/Ramsar sites.
Authorisation of discharges to groundwater	These regulations should take account of the requirements of Natura 2000 sites, as more stringent objectives may be required.
Priority Substance Control	Assessment under Article 6 of the Habitats Directive will be required for new processes for treatment or disposal if potential exists for impacts to a Natura 2000/Ramsar site.

With regard to the Basic Measures, these will result from implementation of the existing 11 Directives listed in Article 10 and part A of Annex VI of the WFD, which are not new measures but for which the Plan gives added impetus. As such, and projects arising from these would be subject to the requirements of existing environmental protection legislation, e.g., the Habitats Directive.

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Has the Environmental Report changed since its original publication?

Where possible, clarifications and minor amendments and additions have been made in the Environmental Report, as necessary. An updated Environmental Report has been placed on the www.erbd.ie website.

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It should be noted that for the purposes of these **mitigation measures** in all cases the term Appropriate Assessment (AA) refers to the assessment process as specified in Article 6 of the Habitats Directive. This starts with screening to determine whether a likely significant impact from the plan/programme is expected to occur to a Natura 2000/Ramsar site as a result of activities in/adjacent to/in the catchment of a Natura 2000/Ramsar site. If, in accordance with AA guidance (guidance produced by the EU, DEHLG in Ireland), it can be shown that there is no potential for impact at the screening stage, no further assessment may be required. However when the plan/programme being screened lies within or adjacent to a Natura 2000/Ramsar site then such a determination must be made in consultation with NPWS. If the plan/programme is within the catchment (surface and groundwater) of a Natura 2000/Ramsar site, such consultation with NPWS is only necessary for those water dependent Natura 2000 sites which are listed in the WFD Register of Protected Areas.

The codes for each of the measures in the Plan requiring mitigation are given in the second column of the table. The SEA reference number for the applicable mitigation measures is given in the fourth column of the table. Mitigation Measures in **black** are from the SEA Environmental Report, while Mitigation Measures in **blue** are from the Habitats Directive Assessment.

Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
Measures intended to reduce loading to the treatment plant: - Limit or cease the direct importation of polluting matter, e.g. industrial wastewater entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process - Investigate fats, oils and grease issues (FOG). - Upgrade and rehabilitate Combined Sewer Overflows (CSOs). - CSOs to comply with GSDS recommendations	325 159/167 166/168 146	■ Direct positive impacts for WWTP / WWTW by improving capacity and efficiency. ■ Indirect positive impacts on water, biodiversity, soils and human health by reducing pressure on existing infrastructure. ■ Indirect negative impacts to water and biodiversity, air quality and climate, soils, cultural heritage and landscape due to alternative disposal (e.g. incineration) requirements. ■ Direct negative impacts to operators producing polluting matter as may require additional costs to implement. ■ Medium to long-term impacts, as further investigations will be required to implement specific measures. ■ Appropriate Assessment concluded that reducing nutrient loads may improve water quality and reduce the impacts of eutrophication.	**WW1** **WW1**	This alternative should be accompanied by an education and awareness campaign for householders and commercial premises dealing with under-sink disintegration and FOG. This alternative will require project level Appropriate Assessment if alternative facilities for treatment of waste are constructed, e.g. incinerator.
Impose development controls using a common approach where there is, or is likely to be in the future, insufficient capacity at treatment plants. To be achieved through: - Inclusion of an Environmental Report with Development Plans. - Grant, refuse and review licence for developing land.	94 117	■ Direct positive impacts for population by ensuring sustainable development. ■ Indirect positive impacts for water quality, biodiversity, soil and human health through reduced intensity of development in areas with insufficient capacity. ■ Direct negative impacts for economic resources attempting to locate or expand in areas with insufficient capacity. ■ Indirect positive impacts for existing economic activities currently impacted by poor water quality, e.g. tourism. ■ Positive impacts on existing WWTP / WWTW by reducing cumulative pressure from development. ■ Potential indirect negative impacts to cultural heritage if traditional industries are curtailed due to insufficient capacity in particular areas. ■ Potential short-term effects onward if controls are imposed on planning applications from the date of Plan adoption. ■ Appropriate Assessment found an overall positive affect if whole catchment loadings are considered as part of the planning process.	**WW2** **WW2**	This alternative will need to link to the development planning process, e.g. by including a requirement to address wastewater capacity as part of the scope in any accompanying SEA for a Development Plan. This alternative will need to consider whole catchment loading.
Replace or upgrade of existing WWTP, through:		■ Direct positive impacts on material assets through upgrades to existing	**WW10,**	Negative impacts on climate associated with GHG emissions

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
- Tertiary Treatment. - Upgrade domestic WWTWs to secondary treatment for P.E. >10,000 discharging to coastal waters. - Upgrade domestic WWTWs to secondary treatment for P.E. >2,000 discharging to rivers, lakes, & estuaries. - Upgrade domestic WWTWs to 2 mg/l or 80% TP reduction for P.E. >10,000 discharging to sensitive waters (unless no eutrophication potential). - Upgrade domestic WWTWs to 1 mg/l or 80% TN reduction for P.E. >100,000 discharging to sensitive waters (unless no eutrophication potential). - Upgrade domestic WWTWs to 15 mg/l or 70% TN reduction for P.E. >10,000 and discharging to sensitive waters (unless no eutrophication potential). - Upgrade domestic WWTWs to 10 mg/l or 80% TN reduction for P.E. >100,000 and discharging to sensitive waters (unless no eutrophication potential). - Improve removal of certain parameters at WWTP.	14 100 101 102 105 106 107 363	infrastructure. ■ Indirect positive impacts on water quality, biodiversity, soils and human health by improving effluent quality. ■ Indirect impacts on biodiversity by altering existing food web dynamics. ■ Contributes to sustainable development by ensuring adequate water and wastewater infrastructure. ■ Indirect positive impacts to water as an economic resource and the sectors dependent on it. ■ Potential negative impacts if additional landtake is required for existing or new infrastructure. ■ Indirect negative impacts on biodiversity, soils, and cultural heritage, if sited inappropriately. ■ Additional costs likely to upgrade systems to secondary and tertiary treatment. ■ Potential negative impact on climate due to additional energy requirement and emission of CO2. ■ Appropriate Assessment found that reduced nutrient loads may improve water quality and reduce the impacts of eutrophication. Particularly important for protected areas with more stringent objectives, e.g. freshwater pearl mussels or hard water lakes.	**WW11, WW12, WW13** **WW10, WW11, WW12** **WW10, WW11, WW12**	related to additional energy requirements should be offset by use of renewable energy sources or similar. If these alternatives involve the building of a new plant or an extension to an existing plant an Appropriate Assessment will be required. Prior to any proposals for a new plant, further investigation will be required to show that a new plant will have the desired improvements in water quality for which it is being built. If additional landtake is required for these alternatives, environmental studies will be undertaken to assess the impact on the environment.
Chose the point of discharge to minimise adverse effects on the environment.	324	■ Direct positive impacts on water quality and aquatic biodiversity. ■ Indirect negative impacts if the point of discharge is relocated without consideration of terrestrial habitats and species or cultural heritage. ■ Positive direct impacts on wastewater treatment infrastructure. ■ Indirect positive impacts on economic activities dependant on good water quality. ■ Appropriate Assessment recommended that implementation of this alternative should be prioritised in catchments containing sensitive/protected areas.	**WW14**	Appropriate Assessment will be required to demonstrate that the relocation will not negatively impact on protected areas.
Implement community digestors for alternative energy.	366	■ Direct positive impact to soils and indirect positive impact to water quality, aquatic biodiversity and human health, due to reduced disposal of sludges using methods such as landspreading. ■ Negative impacts to climate, due to production of greenhouse gases by treatment methods, and air quality, from transport of material requiring disposal. ■ Indirect negative impacts to biodiversity and cultural heritage if digestors are sited in sensitive locations. ■ Indirect negative impacts on air quality/climate and potential human health issues if incineration is used inappropriately.	**WW16** **WW16**	If additional landtake is required, environmental studies will be undertaken to assess the impact on the environment. Appropriate Assessment will be required to demonstrate that any new infrastructure will not negatively impact on protected areas.

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
		■ Positive direct impacts on wastewater treatment infrastructure. ■ Indirect positive impacts on economic activities dependant on good water quality.		
Upgrade IPPC licensed facilities management structures and practices to best available technology (BAT). Upgrade waste licensed facilities management structures and practices to best available technology.	120 355	■ Direct positive impact on material assets, through improvements to the industrial sector. ■ Direct positive impact on water and aquatic biodiversity, including protected sites but only if any discharge relocation options take account of the location of protected sites. ■ Indirect positive impacts on soils and human health and water as an economic resource. ■ Indirect negative impact to material assets as a result of upgrade and/or relocation costs. ■ Potential negative indirect impact to air quality and climate depending on what BAT is considered. ■ Potential negative direct impact to cultural heritage if relocation occurs without consideration of cultural heritage features.	**IND6** **IND8** **IND8**	Once clarified, BAT should be reviewed in the context of impacts to air quality and GHG emissions. A cultural heritage assessment will be required if these improvements includes relocation of discharge points. If these improvements include relation of discharge points, areas containing sensitive habitats and species should be avoided. An Appropriate Assessment will be required to determine impacts on protected areas resulting from relocation.
Mitigate impact of quarry activities. Mine discharge to be suitably treated.	142 126	■ Direct and indirect positive impacts for biodiversity through habitat rehabilitation, restoration and creation. ■ Direct positive impacts on soils and groundwater. ■ Negative impacts on air quality and climate as a result of transport related emissions from export of contaminated soils for treatment. ■ Indirect positive impacts on air quality, water and human health, from improved water quality and reduced exposure to airborne pollution associated with contamination. ■ Indirect positive impacts on cultural heritage and landscape if remediation considers the whole landscape. ■ Indirect negative impacts on cultural heritage and landscape if specific local measures do not account for the receiving environment. ■ Appropriate Assessment has noted that this alternative should consider protected area requirements/ impact on protected areas as one of the criteria for prioritisation. ■ Speed of implementation of remediation projects will dictate if impacts occur in the short-medium or medium-long term.	**OP5** **OP5** **OP5** **OP5**	Remediation of site and containment options will need to be inclusive and linked to risk assessment to look at all pathways for contamination, not just water. Remediation needs to look at the whole receiving environment, not just water. Remediation projects will need to work with Biodiversity Action Plans (national and local). Local projects could work with other similar habitat types in an area to create ecological networks to the benefit of flora and fauna. Project level Appropriate Assessments will be required for activities under this alternative. On-site treatment of contaminated soils should be considered to reduce negative impacts to air quality and climate from transport related emissions.
Harbour dredgings to be suitably disposed of (138).	138	■ Similar impacts as Measures 142 and 126 (SEA OP5). ■ Direct positive impacts to water and aquatic biodiversity from proper disposal of dredged harbour material. ■ Negative indirect impacts to air quality, climate and material assets if the removal of dredged material requires transport to locations further in distance than previously. ■ Indirect negative impacts to biodiversity, population, cultural heritage, landscape and human health if disposal sites are inappropriately located.	**OP6**	Appropriate Assessment will be required for activities under this alternative.
Review IPPC licences. Grant and refuse IPPC licences subject to set limits to reduce pollution effects. Review waste licences.	298 297 357	■ Negative impacts on economic activity from potential changes to management practices. ■ Positive impacts to water quality and aquatic biodiversity from reduced chemical pollution.	**DS3**	Sector specific targeted pollution reduction programmes will need to be developed in the early stages to ensure that maximum medium to long-term gains can be achieved.

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
Grant and refuse waste licences subject to set limits to reduce pollution effects. Grant, refuse or review licences as appropriate.	356 306	■ Indirect positive impacts on climate from lower energy use in water and wastewater treatment. ■ Indirect positive impacts as a result of reduced pollution for terrestrial biodiversity, soil and human health. ■ Appropriate Assessment noted that this alternative must consider protected areas objectives and requirements and prioritise review according to their needs. ■ Existing pollution may cause problems beyond the medium term assessment period (2015); reducing input will have some immediate benefits for environmental receptors.		
Upgrade IPPC licensed facilities management structures and practices to best available technology (BAT). Upgrade waste licensed facilities management structures and practices to best available technology.	120 355	■ Direct positive impacts for water quality and aquatic biodiversity in the short-term. ■ Indirect positive impacts for human health and other biodiversity, which may be secondarily affected by the discharge of dangerous substances. ■ Positive impact on material assets as it will directly contribute to provision of new and upgraded wastewater infrastructure. ■ Short-term negative impacts are likely on economic activity as a result of implementation costs.	**DS5**	Appropriate Assessment will be required if this alternative would involve the building of a new plant or an extension to an existing plant.
Develop riparian buffers. Restrict cattle access to rivers – create cattle drinking points.	4 161	■ Direct positive impact on water quality and indirect positive impacts on aquatic flora and fauna. ■ Direct positive impact on riverbank vegetation and soil environment. ■ Positive impact due to prevention of soil erosion adjacent to river. ■ Positive impact due to buffer zone contributing to the interception of pathogens and nutrient enrichment from farm sources due to surface water runoff. ■ Positive impact on the economic value of the water resource. ■ Negative impact on bird species if current management practices in buffer zones cease. ■ Indirect economic impacts due to some loss of productive land and/or reduction in access to water for livestock. ■ Removal of productive land may lead to a reduction in capacity, potentially increasing the need for food imports, leading to indirect impacts on air quality and climate due to increased transport emissions. ■ Indirect negative impacts on population if increased imports are required to satisfy demand for foodstuffs. ■ The Appropriate Assessment identified the need for management of these areas to reduce the potential for invasion by alien species. ■ The Appropriate Assessment noted that measures should target nutrient hot spots.	**AG1/ AG3** **AG1/ AG3** **AG3** **AG1/ AG3**	It is recommended that compensation be linked to annual upkeep of fences and management of buffers to ensure the ongoing benefit of these alternatives. Appropriate guidance is required for implementation of these alternatives to prevent indirect impacts to biodiversity. A management plan for buffer strips and set aside will be required to ensure there are no detrimental impacts on locally important flora and fauna. These plans should be farm specific to take account of the locally sensitive biodiversity. An Appropriate Assessment will be required.
Restrict land where sludge can be used. Restrict the supply of sludge applied to land to 2 tonnes of dry matter per hectare per year. Discontinue use of soiled water for application to or irrigation of land in certain conditions.	329 331 137	■ Direct positive impact for soils and indirect positive impacts for water quality. ■ Indirect positive impacts for biodiversity and human health. ■ Indirect negative impact on human and direct negative impact on livestock health due to movement of surplus nutrients. ■ Indirect negative impacts to air quality and climate if surplus nutrients	**AG12**	A system of cooperation between farms at the local level would mitigate some of the impacts associated with movement of nutrients, including the need to move material over a large area (mitigation of air quality and climate impacts) and provision of numerous small storage areas (mitigation of land loss).

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
		had to be transported elsewhere. ■ The Appropriate Assessment has identified that tankering of nutrients should be subject to assessment prior to implementation and considered as a short-term alternative only.	**AG12**	The use of tankering of nutrients should be qualified and should only be considered as a short-term alternative as this does not resolve the issue with the pressure. An Appropriate Assessment is also recommended for the relocation area.
Implement community digestors for alternative energy.	366	■ Direct positive impact for soils and indirect positive impacts for water quality. ■ Indirect positive impacts for biodiversity and human health. ■ Negative impact to climate due to increased emissions of methane from digestors. ■ Negative impact to air quality due to increased transport of digestate for disposal. ■ Negative impacts to biodiversity, cultural heritage and landscape if additional landfill facilities are sited inappropriately. ■ Indirect negative impacts to air quality and climate as well as potential human health issues if incineration is required.	**AG13** **AG13**	Methane gas, resulting from use of digestors to treat nutrient surplus, should be captured and re-used as a fuel source to offset impacts to climate associated with generation of greenhouse gas. The resultant digestate should only be disposed of in licensed landfill facilities. Should new landfill facilities be required, the siting of these should be subject to environmental impact assessment. An Appropriate Assessment will be required for any new facility. This alternative should only be implemented in areas when the intensity of farming is currently high, and should not be used as a method to allow further intensification of farming in protected areas.
OSWTS risk matrices to be integrated into Development Plans and Local Area Plans. Link EPA Code of Practice for Wastewater Treatment Systems to building regulations. EPA to integrate Framework document for Site Investigation for Licensed Groundwater Discharges to Updated Code of Practice for Small Businesses, Hotels and Communities. LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections.	235 238 239 242	■ Addresses impacts at the earliest pre-planning stage. ■ Direct positive impacts on the soil and water environments by reducing cumulative pressures in the short to medium term. ■ Consistent implementation will be dependent on the awareness and understanding of the regulations by individuals and administrators / planners. ■ Indirect positive impacts for biodiversity, human health and population through improved water quality. ■ Contributes positively to sustainable development. ■ Indirect positive impacts on economic activities, e.g. tourism, dependant on good water quality. ■ Indirect negative impacts from a social and/or economic development perspective if conditions cannot support new on-site treatment systems. ■ Indirect negative impacts to cultural heritage, particularly in rural areas. ■ Impacts expected to occur in the medium to long term due to need to amend current policy/regulations.	**UP2**	The pre-planning process should assess whether an Appropriate Assessment would be required for new development within or adjacent to a protected area (235 & 242 only).
Enforce regulations on septic systems. Carry out septic system inspections and upgrades.	129 11	■ Direct positive impacts on water and soil quality in the short term. ■ Indirect impacts on aquatic biodiversity and human health and water as an economic resource, timeframe would depend on speed of implementation. ■ Indirect negative impacts on biodiversity are possible due to changes in nutrient composition. ■ Appropriate Assessment notes that the return of surface and groundwaters to a more natural state as existed pre phosphate products would be a positive impact. ■ May have cost implications at the local authority and individual level. ■ Indirect air and climate impacts due to increases in sludge disposal and	**UP8** **UP8**	An education programme should be carried out in tandem with new requirements for tank maintenance, including guidance on disposal of sludges. Intelligent transport programmes should be put in place to minimise the amount of emissions associated with movement of sludges from on-site treatment systems. New wastewater treatment infrastructure, including sludge disposal infrastructure, will be subject to environmental assessment at the project level to reduce indirect impacts to biodiversity, landscape, cultural heritage, air quality and climate.

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
		transport. ■ Indirect negative impacts to human health if land spreading of sludges occurs without proper guidance. ■ Education essential for owners of on-site systems to raise awareness of need for ongoing maintenance of on-site treatment systems.		
Treatment Plant Tie-ins. Develop collection systems for P.E. >2000 (unless negligible benefits or excessive costs). Upgrade WWTW <2000 P.E. Upgrade WWTW and Collecting Systems <2000 P.E.	12 98 152 153	■ Direct positive impacts on water and soil quality in the short term. ■ Indirect impacts on aquatic biodiversity, human health and water as an economic resource, timeframe would depend on speed of implementation. ■ Indirect negative impacts on biodiversity are possible due to changes in nutrient composition. ■ Appropriate Assessment notes that the return of surface and groundwaters to a more natural state as existed pre phosphate products would be a positive impact. ■ Direct positive impacts on the provision of water management infrastructure. ■ May be difficult and/or costly to achieve connection to the municipal systems over large areas with scattered development. ■ May require upgrades to the wastewater treatment facilities in over capacity areas. ■ Indirect impacts on air quality and climate from increased fuel usage and increase in the amount of sludge requiring disposal due to increased treatment. ■ Indirect negative impacts to biodiversity, landscape and cultural heritage if new wastewater treatment facilities are not sensitively sited. ■ Indirect negative impacts if allows development in rural areas not served by other links, e.g. public transport. ■ May be beneficial to economic activity if barriers to rural development are removed.	**UP11** **UP11** **UP11**	Upgraded treatment works should be required to introduce BAT, including the use of renewable energy sources, in order to reduce GHG emissions and others resulting from increased demand for treatment. New wastewater treatment infrastructure, including sludge disposal infrastructure, will be subject to environmental assessment at the project level to reduce indirect impacts to biodiversity, landscape, cultural heritage, air quality and climate. Appropriate Assessment will be required for new structures.
Cross reference guidance documents and Forestry Schemes Manual. New guidance on management of forestry planted prior to the introduction of the Forest Service Guidance documents and Codes of Practice to be developed. Implement Forestry and Water Quality Guidelines. Forest Service - Code of Best Forest Practice. Forest Service - Forestry and Archaeology Guidelines. Forest Service - Forest and Biodiversity Guidelines. Forest Service - Forest and Landscape Guidelines. Forest Service - Forest Harvesting and Environment Guidelines.	245 246 137 269 270 271 272 273	■ There are a number of guidelines/management controls identified as potential measures, the details of which are not yet available. However, as these are likely to require some changes to forestry practices it is strongly recommended that when the details of these are known they are compared with the suite of mitigation measures recommended for Forestry in the SEA, to determine if any of the required mitigation measures apply, as well as being subject to an environmental assessment and, where required, an Appropriate Assessment to identify potential impacts other than those related to water, e.g. climate, population, etc. ■ ■ Some of the impacts that could potentially occur: ■ Negative impacts for climate and material assets. ■ Negative impact on the economic value of forests through restrictions and limitations. ■ Direct long-term benefits to water and soil quality. ■ Indirect long-term benefits to human health and aquatic biodiversity.	**FALL** **F2 to F8**	Future guidelines for forestry should be developed through a steering group represented by bodies such as Coillte, the Forest Service (Northern Ireland), the Forest Service (Ireland), National Parks and Wildlife Service, the Central Fisheries Board (Ireland), the Fisheries Conservancy Board (Northern Ireland) the Northern Ireland Environment Agency, and representatives from the relevant planning authorities to ensure that the final guidelines take a holistic approach to the environment which includes biodiversity, landscape, climate and cultural heritage interests. Consideration should be given to identifying and implementing as a priority those alternatives that can be applied to forests only starting or midway through the growth cycle. It is recommended that prior to any changes in forest size or species mix, a study is carried out to determine the change, if any, in the carbon dioxide sequestering capacity of the forest. Should sequestering capacity be reduced,

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
Forest Service - Forest Protection Guidelines.	274			compensation measures will be required to offset these.
Forest Service - Forestry and Aerial Fertilisation Guidelines.	275		F3	An Appropriate Assessment will be required for changes in the structure of existing forests to include structural diversity and increased open space.
Forest Service - Forestry Schemes Manual.	276			
Forest Service - Forestry and Freshwater Pearl Mussel Requirements, Site Assessment and Mitigation Measures.	277		F5	An Appropriate Assessment will be required if a new plantation is proposed to be developed on peat sites or erodible soils in areas or catchments in areas protected for biodiversity (i.e. an SAC, SPA or Ramsar).
Forest Service - Protocol on acid sensitive areas.	278			
Update protocol on acid sensitive areas based on acid sensitive areas map and research.	247		F13	Should it be proposed to mitigate acid impacts symptomatically using basic material, this should be avoided in protected areas, particularly in sensitive freshwater pearl mussel catchments.
DAFF - Review of Forestry Act, modification of requirement for replanting clear felled sites.	243			
Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	244		F14	An Appropriate Assessment will be required if it is proposed to mitigate acid impacts symptomatically using basic material or proposed to manage catchment drainage to increase residence times and soil wetting, including no drainage in some areas.
			F19	Detailed studies should be carried out prior to the introduction of any non-native species to be used as a biological control method.
			F19	An Appropriate Assessment will be required if it is proposed to introduce non-native species to be used as a biological control method.
			F20	A determination with regard to the requirement for SEA for Forestry practices under the provisions of the SEA Directive and Appropriate Assessment under the Habitats Directive should be made.
Implement Coastal Zone Management Schemes, e.g. Bantry Bay Charter.	263	■ Direct positive impact to water and biodiversity and indirect positive impacts to population, climate and human health due to wetlands and Coastal Zone Management Schemes. ■ Negative impacts to biodiversity and cultural heritage if schemes are not rolled out in tandem with educational programmes and guidelines for their implementation. ■ The Appropriate Assessment has noted that these types of schemes need to be properly planned and take account of all protected area requirements.	PM2	An Appropriate Assessment will be required.
Introduce soft edges to inferior habitats. Preserve and/or restore banks. Assess need for barrier removal based on risk and expert judgement. Facilitate fish migration.	123 176 252 149	■ Direct positive impacts for water quality and aquatic biodiversity. ■ Economic benefit in the improvement of fishery resources through the removal impassable barriers. ■ Negative impacts to architecture, archaeology and cultural heritage due to removal of structural features. ■ Indirect negative impacts on landscape due to removal of structural features. ■ Negative impacts to existing habitats, which have developed as a result	PM6/ PM9 PM6	An archaeology, architecture and cultural heritage assessment will be required before removal of any physical modifications with potential for cultural heritage value. Mitigation measures will be in agreement with the relevant authority. This assessment should include reference to cultural heritage in the context of the existing landscape. A flood impact assessment should be carried out for all channelisation (i.e. canalisation) and barrier remediation

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
		of physical modifications. ■ Indirect negative impacts on human health, population and material assets due to the removal of flood defences. ■ Indirect negative impacts on climate if hydroelectric facilities were removed.		schemes to determine whether an increased risk of flooding would occur as a result.
			PM6/ PM7	An Appropriate Assessment will be required for remediation schemes.
			PM9	An Appropriate Assessment will be required for impassable barrier remediation schemes.
			PM7	Any voluntary schemes and/or overgrazing remediation schemes should be rolled out in tandem with an education and guidance programme to ensure that the schemes are carried out in a holistic manner.
Maintain good hydrological status. Establish minimum instream flow conditions and requirements for compensation releases to allow flow variations. In flow regulated rivers, establish guidance on flow variations to support ecology. Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms. Develop Habitat Suitability Curves for salmonids in Irish rivers.	144 379 380 381 382	■ Direct positive impact on water and on aquatic biodiversity due to minimum flow and flow variability. ■ Indirect positive impacts for human health and soils. ■ Indirect positive impacts for population and for material assets including angling and tourism. ■ Positive impact on cultural heritage where minimum flows keep submerged archaeology from exposure. ■ Negative impacts to cultural heritage where compensation flows cause damage to riverine or bank side archaeology. ■ The appropriate assessment has identified this as a desirable alternative, with overall benefits for protected areas.	**AB4**	The assessment shall determine whether compensation flow is sufficient to meet the needs of in stream flora and fauna.
Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater (368). Develop and employ demand reduction measures. Reduce water demand through improved conservation. Initiate fieldwork to determine groundwater-surface water contributions and develop water budgets.	368 372 377 378	■ Direct positive impact for surface and groundwater and aquatic biodiversity due to reduction in abstraction rates. ■ Indirect positive impacts on climate change as less energy would be required to treat drinking water. ■ Indirect positive impacts for population and the economy due to reduced need to provide water management infrastructure.	**AB6/ AB7/ AB8**	Although water conservation awareness campaigns have been implemented the message has not hit home for many people. It is therefore recommended that a working group be established to develop tools to promote water awareness (similar to existing waste awareness campaigns) and ensure these tools are included in future water awareness campaigns.
			AB8	An Appropriate Assessment should be undertaken for any new infrastructure.
Develop and employ demand reduction measures.	372	■ Direct positive impact for surface and groundwater and aquatic biodiversity due to reduction in abstraction rates. ■ Indirect positive impacts on climate change as less energy would be required to treat drinking water. ■ Indirect positive impacts for population and the economy due to reduced need to provide water management infrastructure. ■ Direct negative impact to economic activity.	AB9	Suitable education and awareness campaigns are recommended to provide residential users with the tools / knowledge to reduce water consumption. It is also strongly recommended that water-metering schemes promote conservation.
Investigate increasing availability of supply through conjunctive use of available water supplies. Alter the availability of supply through conjunctive use or integrated water resources	371 373	■ Direct positive impact on water quality and aquatic biodiversity due to reduction in abstraction volumes, altered abstraction timing or conjunctive use. ■ Indirect positive or negative effects on biodiversity and soils depending on location of storage and type of storage used.	AB10 AB12	An Appropriate Assessment should be carried out if it is proposed to reduce abstraction volumes. An Appropriate Assessment should be carried out for any proposed conjunctive use.

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Measures	RBMP Ref No.	Assessment Summary	SEA Ref No.	SEA and HDA Mitigation Measures
management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source.		■ Potential implications for the spread of alien species through use of storage. ■ Indirect positive impacts for human health and economic activities, including tourism and angling. ■ Indirect negative impact on economic development due to restrictions in development if allowed abstraction volumes are reduced. ■ Benefits due to economic activity as development is facilitated through conjunctive use or storage options. ■ Indirect negative impact on climate change due to increased energy usage with the storage option. ■ Potential indirect negative impact on cultural heritage and landscape as a result of siting infrastructure. ■ The Appropriate Assessment has identified a positive effect on biodiversity in over abstracted catchments.	AB13 AB13 AB13	Possible storage sites should not impact negatively on sensitive habitats and species. Good quality agricultural land should also be avoided where alternatives exist. Storage options will include proposals for biodiversity enhancement and opportunities for economic benefit e.g. tourism, angling without compromising environmental sustainability. Energy required for pumping stations should be sourced from renewable sources. A protocol for prevention of the spread of any alien species shall be developed and agreed with the relevant authority and the relevant fisheries board in advance of any inter-catchment transfers. An Appropriate Assessment should be undertaken for any proposed storage facility.

Strategic 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 and 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 and wastewater 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.

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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.	Status of EU Protected Habitats and Species. Condition of Selection Features in sites designated for nature conservation (SACs, SPAs, Ramsar and NHAs).	The Status of EU Protected Habitats and Species in Ireland report. NPWS. Published every 6 years. Not currently compiled
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.
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. 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.
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.
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 Indicators: 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 Indicators: 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 Indicators: 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

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Target	Indicator	Data Availability, Source and Frequency
W: Limit pollution inputs to groundwaters and prevent deterioration (WFD Objective).	Interim Indicators: 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
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 / WWTW, 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 the Ireland's Corine Land Cover 2000 (CLC2000) 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.
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 2000 (CLC2000) 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 RMP (Ireland) due to Plan implementation. Number of listed structures at risk due to Plan 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.
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 2000 (CLC2000) project.

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12 What Happens Next?

A Draft version of this Plan was open for public consultation from December 2008 – June 2009 and the many comments which were received have been reviewed and, where possible, incorporated in this Final version.

The programme for the future is laid out in the legislation (SI 722):

- 2009; the Plan to be submitted to each County Council in the Eastern District for their consideration;
- 2009; ERBD constituent Local Authorities to submit the Final Objectives, Plan and Programme of Measures to the EPA;
- 2009; EPA to submit the Final Plan and their recommendation to the Minister for the Environment, Heritage and Local Government;
- 2009; Minister to submit the Final Plan to the EU;
- 2009/early 2010; re-establishment of Advisory Council
- 2010; Report of Water Pricing Policy
- 2010; EPA to review the monitoring programme and delineation of water boundaries
- 2012; programme of measures to be fully implemented;
- 2012; EPA to issue revised status for all waters; and
- 2015; second river basin management plan to be complete
- 2015; first RBD Flood Protection Plans.

The target dates as set out in the objectives will determine completion and implementation dates for the programme of measures. In addition, the surveillance and operational monitoring programmes described in Section 3 will be continuing throughout the period, supplemented by investigative monitoring as necessary.

Integration of Plans and Programmes: the Need for Coordination

The water objectives can only be achieved if plans and programmes in other relevant policy areas are coordinated and integrated. Sustainable development should also be considered a priority in this process. Key amongst these plans and programmes are:

- County Development Plans and related Local Area Plans;
- Habitat and Species Protection Plans under the Habitats Directive;
- Water Services Investment Programme;
- Nitrates Action Programme;
- Flood Management Plans (as required by the Floods Directive);
- Biodiversity Plans at national and local level;
- National Spatial Plan; and
- Regional Planning Guidelines.

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A full list or relevant plans and programmes is presented in Appendix E



New Controls

Achieving objectives of this Plan will require the introduction of a range of new regulatory controls to give legal effect to the actions. Research projects commissioned by the DEHLG recommended a series of new measures; within this Plan they are categorized as "Proposed". Guidance and guideline measures have also been identified and in some cases these may become law in the future.

It is expected that new regulations will include those addressing shellfish waters, classifications and standards, abstractions and flood prevention measures. It is now government policy to apply Regulatory Impact Assessment (RIA) to regulatory proposals. The role of RIA is to evaluate the potential impacts of any new regulation and establish whether it would have the desired impact. For example, it is useful to identify potential side effects or unforeseen extra costs associated with a new regulation. It

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also helps to clarify the cost of enforcement of the regulation. Most future regulations for the implementation of the Directive will be subject to RIA.

Implementing the Plan

The task of implementing this River Basin Management Plan will fall mainly on Local Authorities, although other agencies and stakeholders will also be involved as defined in Section 10 and the Programmes of Measures document. In the case of the Eastern River Basin District, it is envisaged that coordination team funded by DEHLG will be set up within Dublin City Council to coordinate the ongoing work of the twelve participating local authorities and other bodies.

The resources to implement the Plan will come from national and local sources and from both the private and public sectors.

Pilot Implementation

The investigative monitoring and pilot studies by the Mobile Monitoring Unit for specific waters have been outlined in Sections 1 and 10. This work has confirmed the complexity of assessing the reasons for problems in our waters, and the very site specific nature of the problems. A great deal of effort has been, and continues to be, invested in gathering monitoring data on an extensive scale (see Section 3), but even so, there is still a lot of uncertainty and many waters where there is no data at all.

The investment of resources to address poorly defined problems would be inappropriate and so establishing the causes of the problems in each water body and identifying measures to address them cost effectively is essential. All available data has been used in this Plan and this has been supplemented by computer modelling to extend our understanding of the situation. Based on this, measures have been selected which are designed to deal with the key pressures.

Whilst there is a high level of confidence that the measures are appropriate and cost effective it is recommended that they are examined through pilot implementations to:

- Provide detailed data on the pilot area to confirm that the measures are appropriate;
- Implement measures to confirm that the measures are both effective and cost efficient;
- Engage the various stakeholders in the pilot areas to try to overcome sectoral bias;
- Provide detailed post implementation assessment of the performance of the measures.

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This approach has already been adopted by DAFF/TEAGASC who are undertaking pilot catchment studies to assess the beneficial impacts of the Good Agricultural Practice regulations.

It is recommended that the following pilot projects are undertaken during the first planning cycle (their areas of applicability are shown in Maps 12.1 to 12.6:

	Topic	Location	Key Stakeholders	Key Objective
Ongoing	Good Agricultural Practice Regulations	DAFF Pilot Catchments	DAFF, LAs,EPA, Farmers, Teagasc.	Assess the beneficial impacts of the GAP regulations
1	High Status waters	Upper Avoca (2 HS waters)	Wicklow CoCo., LAs, NPWS, EPA	Implement all measures defined for High Status waters and ensure that they successfully protects them
2	Combined sewer Overflows	Liffey Estuary	DCC, LAs, EPA, DEHLG, Amenity groups	Establish relationships between overflows during heavy rain events and water quality in the specific receiving waters; this would include extensive collection system monitoring and water quality modelling of collections systems and receiving waters. Develop base national data sets as recommended in the 2008 Urban Pressures study (CSO effluent quality tables, EMC for surface run off, background water quality conditions, standardise monitoring and modelling methods for sewer networks,
3	Coastal algae	South Dublin Bay	DCC, Dun Laoghaire CoCo., LAs, EPA, MI, Amenity groups	Establish the source of nutrients causing algal and ectocarpus growth in South Dublin Bay and develop appropriate measures to address the sources
4	Urban run off	Drogheda	Meath, Louth, LAs, DEHLG	Establish the contaminant loads in surface water run off from storm water drainage systems serving different land use areas and assess alternative technologies to reduce/eliminate the loadings
5	Septic systems	Broadmeadow catchment	Meath CoCo., LAs, Householders	Establish the impact of septic tanks in soils of differing drainage characteristics and test reed bed treatment systems

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	Topic	Location	Key Stakeholders	Key Objective
6	Peat lands	Upper Boyne (Glash River, Kildare. Yellow River, Offaly)	Kildare CoCo., Offaly CoCo., LAs, EPA, Bord Na Mona	Establish the water quality in waters draining from peat lands in upper catchments and their impact on receiving waters in the context of the EQS values required to obtain good status to assess the appropriateness of the EQS values
7	Diffuse rural nutrients 1	Upper Boyne	Westmeath CoCo., Meath CoCo., Offaly CoCo., Kildare CoCo., LAs, Farmers Groups, Anglers Groups, DAFF	Implement and assess supplementary measures for diffuse rural pollution, including riparian buffer strips/ecological corridors and removal of cattle watering points
8	Diffuse rural nutrients 2	Vartry	Wicklow CoCo., LAs, Farmers Groups, Anglers Groups, DAFF	Implement and assess supplementary measures for diffuse rural pollution, including riparian buffer strips/ecological corridors and removal of cattle watering points
9	Small rural point sources 1	Kildare, Westmeath, Meath	Kildare CoCo., Westmeath CoCo., Meath CoCo., LAs, Farmers Groups, Anglers Groups, DAFF, Householders	Implement and assess measures to address farmyard run off and septic discharges
10	Small rural point sources 1	Wicklow	LAs, Farmers Groups, Anglers Groups, DAFF, Householders	Implement and assess measures to address farmyard run off and septic discharges
11	Estuaries	Rogerstown estuary	Fingal CoCo., LAs, NPWS, EPA, Amenity Groups, Birdwatch Ireland	Develop an approach to improving the speed of recovery of a target estuary by identifying and addressing key pressures within the estuary but also those in the catchment to allow reprioritisation of measures.
12	Misconnections	Dun Laoghaire, South Dublin	LAs, Householders	Undertake a programme of inspections in urbanised upper catchments, facilitate corrective actions and assess the effectiveness on receiving waters and the impact on the load to the collection system
13	Water Conservation	Vartry	Wicklow CoCo., LAs, DEHLG, EPA, SWAN	Initiate a programme of water conservation measures in an urban area planned for increased supply from the Vartry River. This will be focussed on small scale domestic measures such as rainwater harvesting

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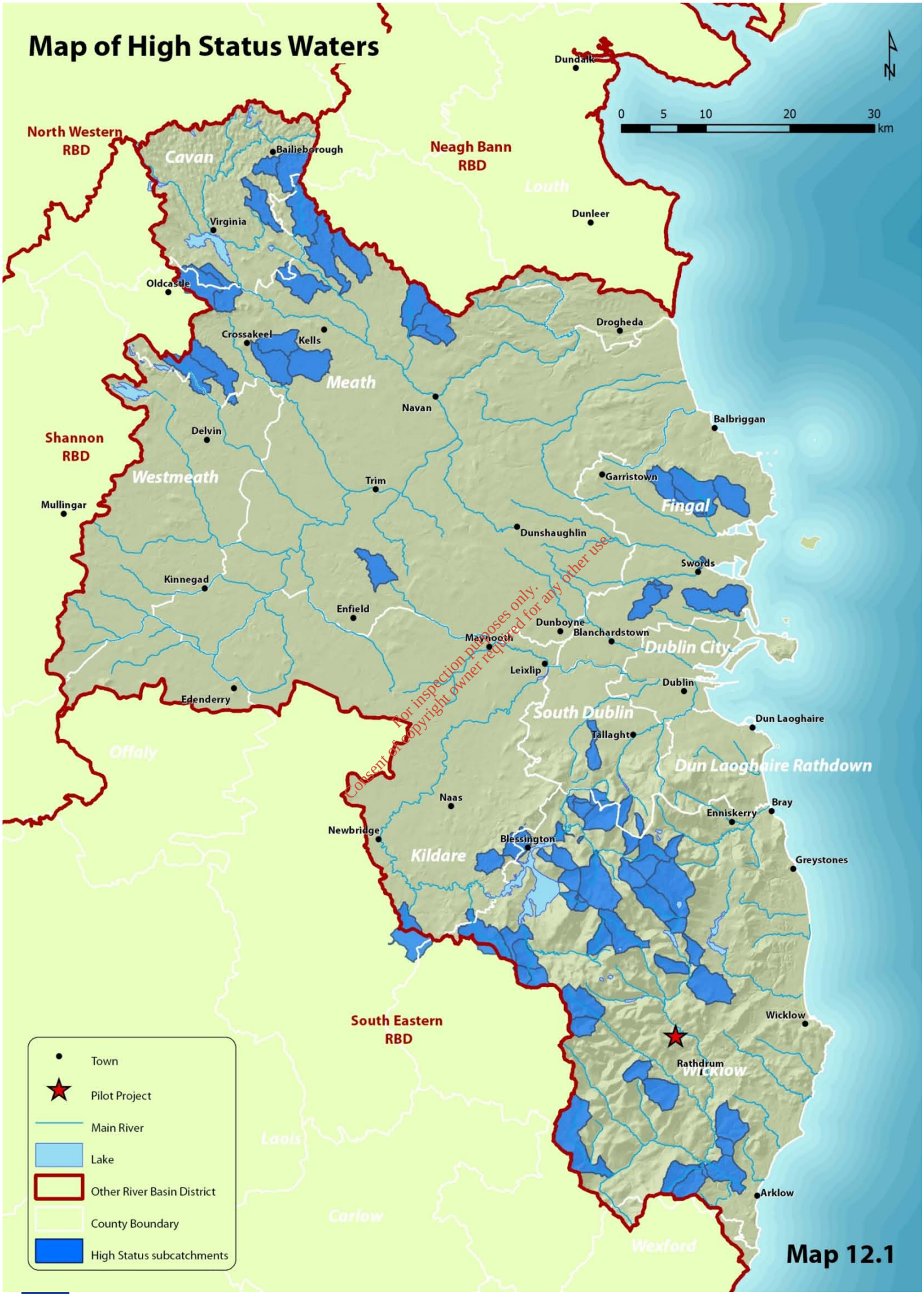
In addition to these pilots several other key initiatives have been identified which should be undertaken early in the first cycle; these include:

- Cost benefit analysis of the proposed less stringent objective for the Avoca groundwater body;
- Detailed study of the Avoca catchment and groundwater body to evaluate the likely success of potential remediation measures; if viewed to be ineffective than a cost benefit analysis will be required for a less stringent objective.

In conjunction with these initiatives it is recommended that a detailed measures implementation programme is developed at river basin district level. This should address the prioritisation issues and process described in Section 10 with particular attention being paid to:

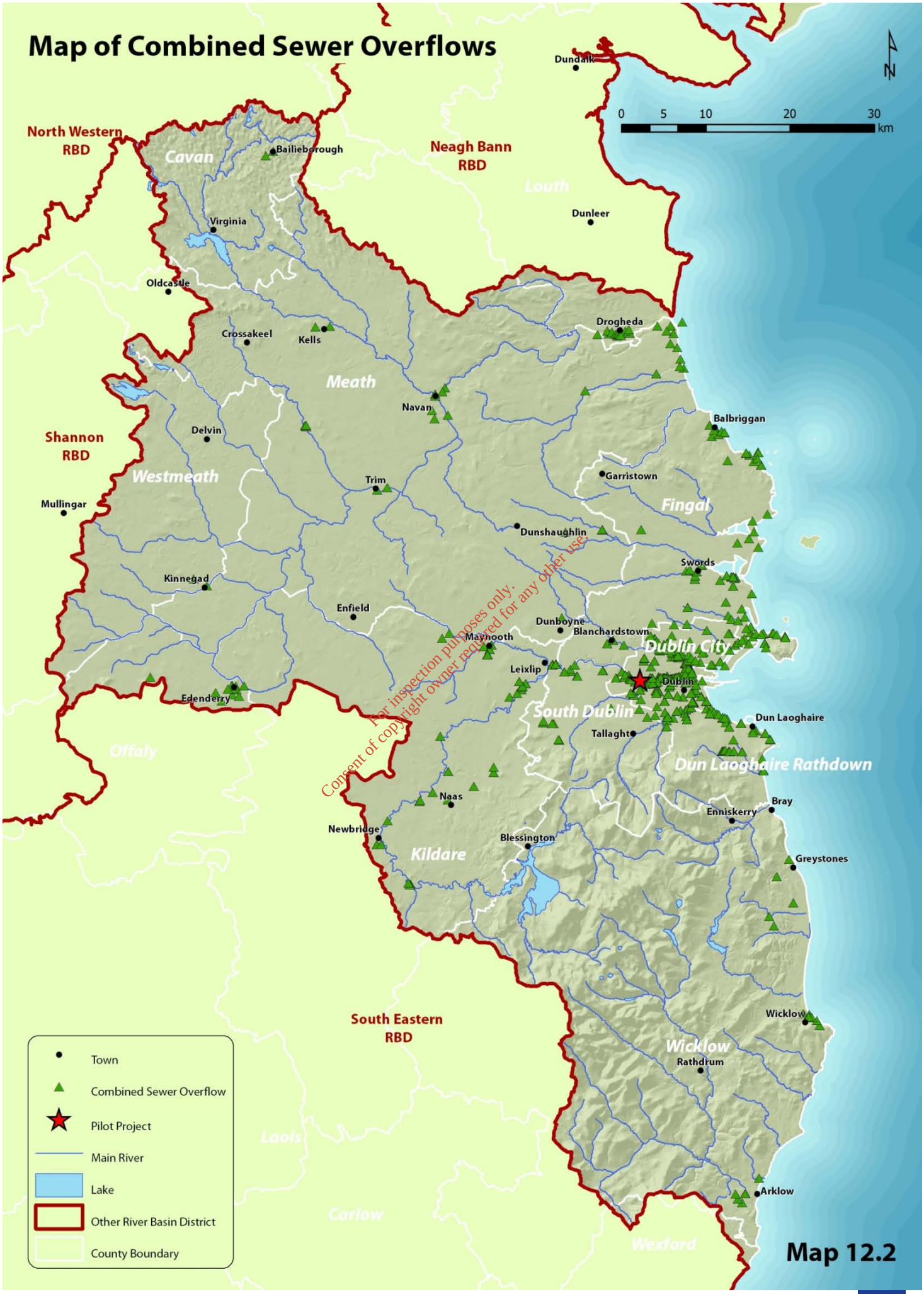
- Initiating field data collection in areas where status is based on extrapolated data and where there is uncertainty about the pressures detrimentally affecting the waters;
- Identifying necessary WwTW improvements and scheduling the planning , design and construction;
- Coordinating farm inspections between local authorities and DAFF to eliminate duplication and focus on priority areas;
- Coordination of inspections and upgrades, where necessary, of unsewered properties.

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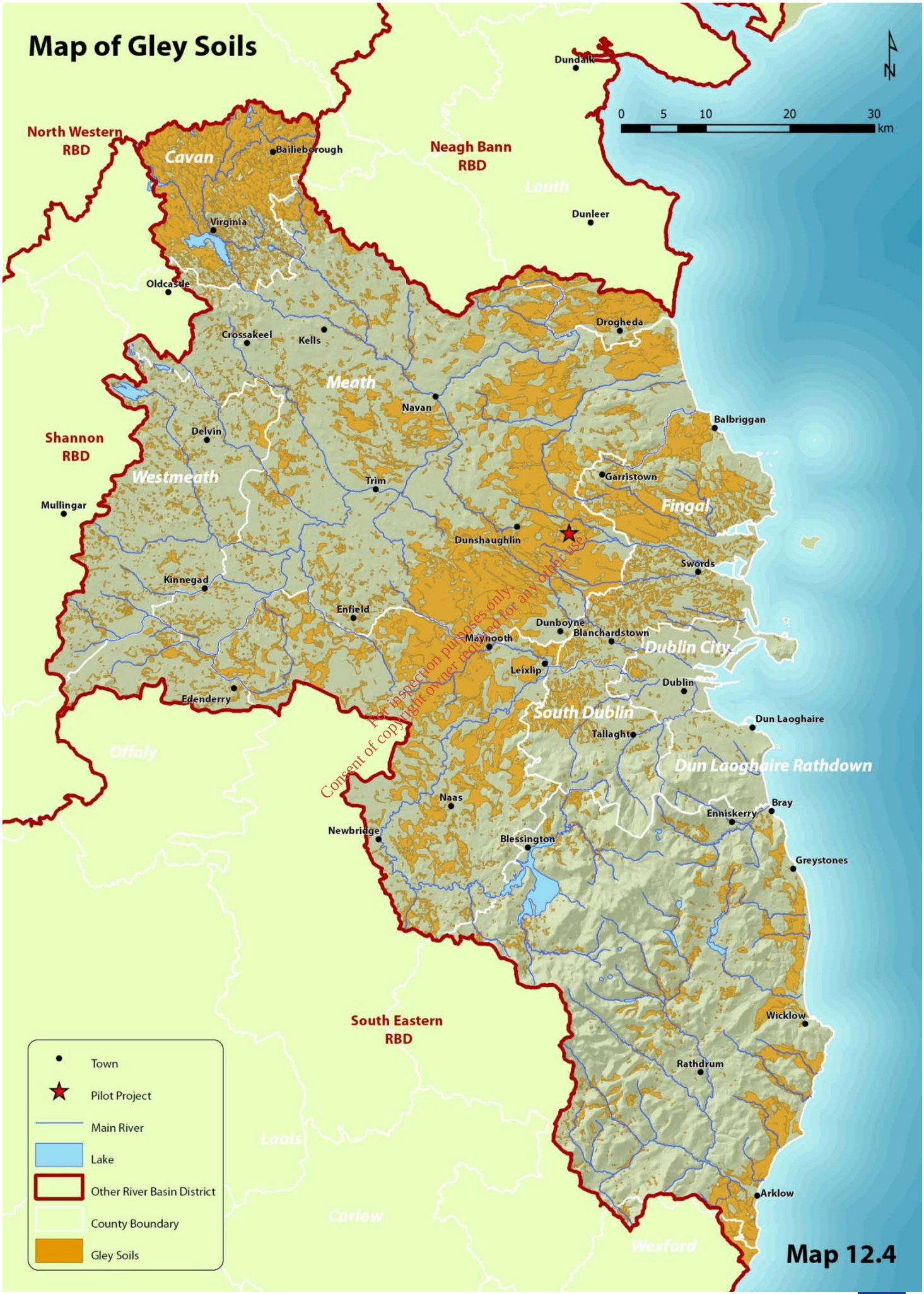
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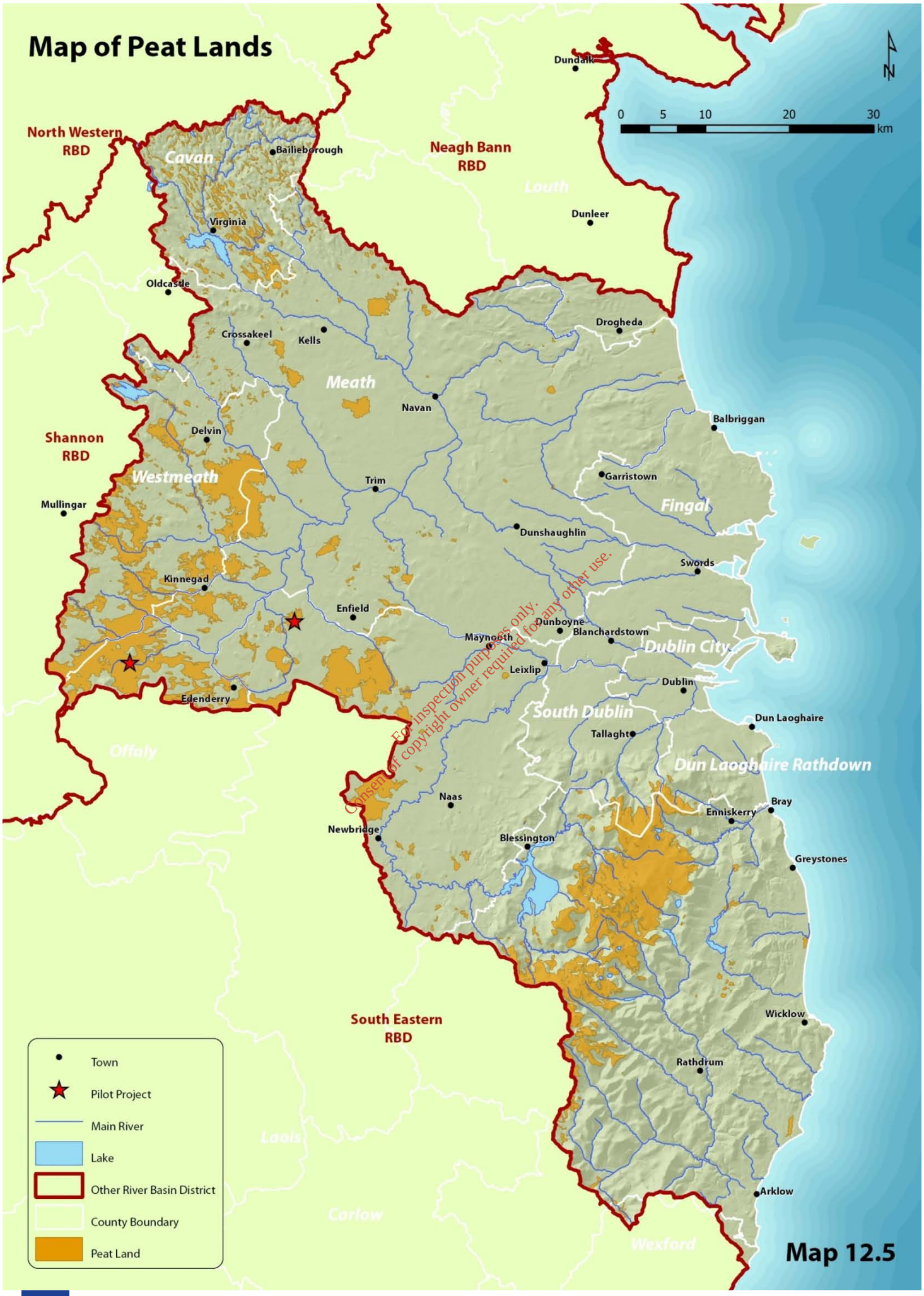
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13 Implementation of the Plan

The River Basin District is the basic unit of planning, implementation, monitoring and reporting under the Water Framework Directive. The work to date on implementing the Directive has been organised and delivered on this basis, with the coordinating local authorities interacting with other local authorities, EPA and other public authorities and stakeholders. This interaction has posed a challenge and while progress has been made, full coordination has not been achieved. The process of developing the plans has been complex and a significant amount of work has been carried out in monitoring, assessment, classification and setting objectives for water bodies.

Delivery of the River Basin Plans will be challenging with responsibility for implementation of the plans currently assigned across a range of organisations with no single body having ultimate responsibility. The current administrative systems are fragmented along administrative lines and do not facilitate analysis, identification and implementation of the most cost-effective solutions to manage water quality at river basin level. An RBD can cover the areas of responsibility of a large number of bodies e.g. 18 local authorities in the case of the Shannon RBD. Furthermore, the implementation of many of the measures necessary to achieve the objectives of the plans is the responsibility of national rather then local authorities. Furthermore, it is recognised that improved enforcement of existing legislation is key to successful implementation of the RBMPs.

As we move to the implementation stage, there is a need to strengthen and adjust the existing administrative structures to ensure effective delivery of the plans including enforcement of relevant legislation, across local, regional and national levels. Recommendations in relation to revised structures for water management have been put forward over the past two years by the OECD, Forfás and in the report of the Special Group on Public Service Numbers and Expenditure.

In tandem with the finalisation of the River Basin Management Plans, proposals to introduce water charging are being advanced and a major report on the efficiency of local government is being finalised. It is likely that recommendations for structural change will emerge from both processes.

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13.1 Review of arrangements

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. The National Advisory Committee will continue to exercise an oversight role. In addition, the annual review provided for under the Water Services Investment Programme will continue to be guided by the information coming through from the river basin management planning process.

There are clear advantages in strengthening the delivery approach at a RBD level for both infrastructure delivery and implementation of the RBMPs. It is considered that this approach has potential to improve efficiencies and co-operation, build and retain appropriate expertise in identified areas and strengthen the capacity to plan and deliver strategically important projects, and give a broader strategic context for locally delivered programmes. It would also facilitate the collation of key data at a regional level, and support more coordinated and synchronised planning and decision making.

Against this background, the Department of the 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, inter alia, consideration of the following priority areas: data management; sampling and monitoring; legislative requirements; inspection and enforcement; reporting; public participation. Since one of the key challenges will be the implementation and enforcement of WFD requirements over a wide range of public bodies, it is important that structures resulting from the review must have a clear RBD remit and be provided with the resources and statutory power to oversee and enforce implementation over all relevant public bodies.

13.2 Implementation process

The implementation of the RBMP at water body / WMU level will be an extremely complex exercise involving the reviewing and coordination of all water management practices and land-use practices that impact on water, to ensure they are in line with the plan, the relevant regulations (e.g. for surface waters and groundwater) and the Directive. To ensure consistent implementation across all RBDs and WMUs, the following principles must be adhered to when implementation plans are being developed and delivered:

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1. All relevant information held by all public bodies shall be made fully available.

2. All information gaps shall be clearly identified with a timeline for completing necessary work to fill gaps in time for the review of the Article 5 characterisation analysis.

3. An appropriate standardised management system shall be developed by 2012 to assess all of the activities that impact water status in the catchment.

4. There shall be a whole-system management approach to implementation that takes account of cumulative impacts, to prevent deterioration in the status of any water body unless an Article 4-compliant exemption has been set out.

5. In the selection of supplementary measures and where appropriate and required by the Directive, a better environmental alternative check must be carried out before an Article 4- compliant exemption is applied.

6. Water Framework Directive and Natura 2000 objectives and requirements shall be addressed in an integrated manner, with implementation measures ensuring compliance with any standards and objectives for Natura 2000 sites by 2015.

7. Where the management system indicates that implementation of basic measures will not avoid deterioration of status or will not restore waterbodies to good status by 2015, a transparent cost effectiveness analysis, incorporating environmental and resources costs and benefits shall be conducted to select the most appropriate supplementary measures to achieve this, unless an Article 4 exemption is set out.

8. Public participation must be integrated into the Plan.

Critical to managing this complex implementation process will be effective data management and interpretation, the streamlining of the regulatory systems that control activities that may impact on waters and ensuring that the regulation of activities is consistent across public authorities.

These issues will be considered during review of water governance and structures mentioned above. However, there are several initiatives currently underway which will facilitate improvements in implementation.

The Environmental Protection Agency and local authorities with support from the Local Government Computer Services Board are developing the Environmental Data Exchange Network (EDEN). The aim of EDEN is to eliminate the difficulties encountered in the sharing and reporting of environmental data sourced from a wide range of environmental datasets, applications, and IT systems in place within the many organisations involved in work related to the Water Framework Directive. In time it is intended that EDEN will be a fully distributed data-sharing network allowing all stakeholders to easily share environmental data. The Environmental Protection Agency and local authorities are also currently investigating web-based catchment management systems that will best facilitate the management, visualisation and interpretation of environmental datasets at catchment level.

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 include; the authorisation of discharges to water and sewer under Water Pollution Acts and protocols for agricultural inspections and enforcement. Other guidance and training will be prepared as appropriate.

13.3 Public participation

Public participation is a central principle of the Water Framework Directive and a programme for encouraging active involvement and participation of the public in the implementation of the plan will be developed by 2011 and delivered as an integral part of the implementation process for the RBD. One of the mechanisms for ensuring participation from stakeholders has been through the operation of statutory Advisory Councils comprising of representatives of the local authorities (elected members), representative bodies, NGOs and the social partners.

As part of the review referred to above, the Department of the Environment, Heritage and Local Government, following consultation with relevant stakeholders, will bring forward any necessary proposals for reform of existing structures in order to maximise the effective active involvement of stakeholder bodies in implementation of the plans.

In tandem with this and to support public participation, public awareness initiatives will also be implemented,

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commencing with a programme of information and awareness-raising to be delivered through The Library Council. The disposal of dangerous household and gardening chemicals will be one of the issues addressed in the awareness campaign. This will include the development of 'ENFOpoints' building on the Minister for the Environment, Heritage and Local Government's plans to enhance the role of libraries in the provision of environmental information services. Access to information relevant to the implementation process will also be made publicly available in readily accessible formats to facilitate fully informed participation of the public.

Amendment made by Minister of the Environment, Heritage and Local Government when adopting Plan on 6 July 2010

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Draft Programme of Measures Powerpoints

Integration of Water Quality Data with RBMS- Eastern River Basin District 2009

Consultation Document, Timetable and Work Programme for making a River Basin Management Plan for the Eastern River Basin District

Water Matters 'Have your Say'

Water Matters 'Have your Say!', Digest of submissions and responses to Significant Water Matters Issues Reports – Eastern River Basin District

Mobile Monitoring Unit Summary Report

Mobile Monitoring Unit Report for Meath (Knightbrook, Clady & Nanny)

Mobile Monitoring Unit Report for Meath (Mosney, Devlin & Broadmeadow WMU)

Mobile Monitoring Unit Report for Kildare (Blackwater South, Rye water & Liffey WMU)

Mobile Monitoring Unit Report for Wicklow County Council/ww.

Mobile Monitoring Unit Report for South Dublin

Mobile Monitoring Unit Report for Dun Laoghaire Rathdown County Council

Mobile Monitoring Unit Report for Cavan County Council

Mobile Monitoring Unit Report for Westmeath County Council

Mobile Monitoring Unit Report for Dublin City Council

Mobile Monitoring Unit Report for Louth County Council

Mobile Monitoring Unit Report for Fingal County Council

Mobile Monitoring Unit Farm Survey Report

User Manual for RBMS

Final Background Policy, Legislation and Authorities Report

Eastern River Basin District – List of Technical Council Members

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Revised Risk Assessment Methodology for Surface Water Abstractions from Lakes

Further Characterisation/Programme of Measures/Groundwater Abstractions Pressure Assessment/Final Report

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Further Characterisation/ Programme of Measures. Risk to Groundwater from Diffuse Mobile Organics

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The Assessment of Urban Pressures in River and Transitional Water bodies in Ireland- Final Report

Further Characterisation/Programme of Measures/Urban Pressure Groundwater Pressures Assessment –Final Report

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Hydrometric Report for Fingal

Hydrometric Report for South Dublin

Hydrometric Report for Kildare

Hydrometric Report for Westmeath

Hydrometric Report for Dublin City Council

Hydrometric Report for Meath County Council

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List of Advisory Council Members

Chair: Kildare County Council	Cllr. JJ. Power
Vice Chair: Dun Laoghaire Rathdown County Council	Cllr. Jane Dillon Byrne
Dublin City Council	Cllr. Tom Stafford
Dublin City Council	Ms. Lorna Kelly
Meath County Council	Cllr. Tom Kelly
Meath County Council	Cllr. Nick Killian
Kildare County Council	Cllr. Billy Hillis
Wicklow County Council	Cllr. Vincent Blake
Wicklow County Council	Mr. Dara Kavanagh
Cavan County Council	Cllr. Paddy McDonald
Cavan County Council	Cllr. Francie McDermott
Wexford County Council	Cllr. Oliver Walsh
Wexford County Council	Mr. John Power
Louth County Council	Cllr. Oliver Tully
Louth County Council	Cllr. Jacqui McConville
Offaly County Council	Cllr. Michael Fox
Offaly County Council	Cllr. Noel Bourke
Westmeath County Council	Cllr. Michael Newman
Westmeath County Council	Cllr. Michael Dollard
South Dublin County Council	Cllr. Guss O'Connell
South Dublin County Council	Ms. Connie Kiernan
Fingal County Council	Ms. Christine Smart
Fingal County Council	Cllr. Robbie Kelly
Dun Laoghaire Rathdown County Council	Cllr. Tom O'Higgins
Leixlip Town Council	Cllr. Shane Fitzgerald
Bray Town Council	Cllr. John McManus
Arklow Town Council	Cllr. Vincent McElheron
Newbridge Town Council	Cllr. Michael Deely
Navan Town Council	Cllr. Tommy Reilly
Balbriggan Town Council	Cllr. May McKeon
Coastwatch	Linda O'Dwyer
Meath Irish Farmers Association	Seamus McGee
Wicklow Irish Farmers Association	Declan O'Neill
Kildare Irish Farmers Association	Tom Malone
Dublin Irish Farmers Association	Joseph O'Donoghue
Coillte	Sean M. Quealy
Irish Concrete Federation	Liam Smyth
IBEC	Robert O'Shea
Irish Hotels Federation	Daniel O'Connell
ESB	John Hayes
Drogheda Port Company	Capt. Martin J.Donnelly
Eastern Regional Fisheries Board	Brian Beckett
Irish Federation of Sea Anglers	Brian Cooke
Bord Iascaigh Mhara	Fabrice Richez
Ballymore Eustace Trout & Salmon Anglers Assoc.	Thomas Deegan
IDEA	Elizabeth Cullen
An Taisce	Anja Murray
Irish Peatland Conservation Council	Sarah Malone

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List of Technical Council Members

Dublin City Council, Lead Local Authority - Eastern River Basin District	Tom Leahy (Chair)
Dublin City Council, Lead Local Authority - Eastern River Basin District	Ray Earle (Project Coordinator)
Dublin City Council, Lead Local Authority - Eastern River Basin District	Hugh Coughlan (Secretary)
Dublin City Council, Lead Local Authority - Eastern River Basin District	Des Boyhan (GIS Coordinator)
Dublin City Council, Lead Local Authority - Eastern River Basin District	Imelda Averill
Dublin City Council, Lead Local Authority - Eastern River Basin District	Don McEntee
Cavan County Council	Peter Cork
Drogheda Borough Council	Dermot Agnew
Dun Laoghaire Rathdown County Council	Ger Looney
Fingal County Council	Peter O'Reilly
Kildare County Council	Michael Holligan
Louth County Council	Pat Finn
Meath County Council	Tim O'Leary
Offaly County Council	David Hogan
South Dublin County Council	Dermot Finch
Westmeath County Council	Greg Duggan
Wexford County Council	Eamon Hore
Wicklow County Council	Michael Geaney (David Harrington, Deputy)
Dept. Agriculture, Fisheries & Food	Patricia Torpey
Dept. of Communications, Energy & Natural Resources	P.J. Shaw
Dept. of the Environment, Heritage & Local Government	Liam Doyle
Bord Na Mona	John Hourican
Coillte	Andrew Bryan
Coillte	Michael Keane
Dublin Regional Authority	Patricia Potter
Eastern Regional Fisheries Board	Noel McGloin
EPA	Catherine Bradley
ESB	John Hayes
Failte Ireland	Mary Stack
Forestry Service	Pat O'Callaghan
Geological Survey of Ireland	Taly Hunter-Williams
Local Government Computer Services Board	Peter Burke
Local Government Computer Services Board	Tara Kerins
Met Eireann	Mary Curley
Met Eireann	Seamus Walsh
Midland Regional Authority	Jim Stone
Midlands Regional Authority	Sarah Morgan
OPW	Tom Bolger
OPW	Nathy Gilligan
Radiological Protection Institute of Ireland	Stephanie Long
Teagasc	Dr. Noel Culleton
Teagasc	Owen Fenton
Central Fisheries Board	Trevor Champ + Jimmy King
The Heritage Council	Beatrice Kelly
The Marine Institute	Evin McGovern + Garvan O'Donnell (alternate)
Waterways Ireland	Brian Mullan
Waterways Ireland	Paula Treacy

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Technical Council Meetings were held in April 2006, October 2006, December 2006, April 2007, October 2007, December 2007, May 2008, September 2008, December 2008, and February 2009.

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Appendix A(i) - Comments on the Water Matters Report 2007

This section of the draft Plan summarises comments made during consultations and the topics discussed in the **Water Matters – Have Your Say!** booklet. Under each topic we highlight what the public and interested parties said during consultations and confirm that these comments have helped to develop our draft management plan by feeding into our proposed action plan. The statutory consultation period was from the 22nd December 2007 to 22nd June 2008. This appendix was provided by the North South Share Project.

Table A(i)1: Water Matters Comments by Pressure

Wastewater and industrial discharges Participants' concerns Treatment plants that are non-compliant with urban wastewater treatment standards must be upgraded and adequate wastewater treatment infrastructure should be put in place before permitting development.	Background	Urban sewers carry wastewater to treatment plants from homes and industrial or commercial sources, as well as storm water from roads, roofs and recreational areas. Pollutants include nutrients, bacteria, organic materials and dangerous substances from homes and industries, metals and hydrocarbons from vehicle exhausts and pesticides from parks, golf courses and gardens. The wastewater is treated, to remove many pollutants, then discharged to surface waters or, occasionally, to groundwater.
	Possible effects	Inadequately treated effluents and spills or leakage from sewerage networks can cause unacceptable levels of pollutants in receiving waters, damaging water quality and downstream uses (for example bathing waters, shellfish waters or waters supporting sensitive species). Urban runoff can be contaminated with pollutants (typically metals and hydrocarbons) which can impact surface and groundwater quality as direct discharges, overflows from sewer networks, leaking from defective underground pipes or seepage from containment areas.
	Action plan	Wastewater discharges will be subject to EPA authorisation and will have to comply with the Urban Wastewater Directive. Wastewater facilities will be upgraded on a prioritised basis. Information on where, when and how urban runoff and overflows impact water quality will be gathered and codes of good practice for sewer operation and maintenance developed and implemented.

Landfills, quarries, mines and contaminated lands Participants' concerns Timescales should be set for characterisation and remediation of contaminated land and historic mine sites and the end-of-life phase for mining operations should be planned.	Background	Residues or waste products from previous activities at these sites may have seeped into the ground and continue to threaten groundwater and surface waters. Our knowledge of these sites is incomplete and is being updated to assess the scale of this problem.
	Possible effects	Pollutants (mainly metals and fuel) may travel through groundwaters and enter surface waters, affecting their quality, damaging aquatic plants and animals and impairing water uses. At some quarry sites, the water table is lowered; that can affect nearby wetland areas, and the transfer of groundwater to surface waters can change water chemistry.
	Action plan	Specific measures will be taken to address contaminated lands, both historic and current mines and extraction sites.

Agriculture Participants' concerns The agricultural sector felt that the Good Agricultural Practice Regulations adequately represented farmers' contribution to the achievement of good water status. However, environmental groups expressed concern that the regulations may not fully address nutrient enrichment in specific areas. Participants also recommended that the use of bio-digestors for the disposal of slurry should be encouraged and funded.	Background	Nutrients (phosphorus and nitrogen) can be carried into waters from farmyards, from manure store leaks or from fields treated with nutrient-rich organic and chemical fertilisers. Animal slurry/manure and silage effluent can cause organic pollution: Ireland's latest drinking water report shows widespread contamination of smaller rural water supplies from agricultural sources.
	Possible effects	Nutrients enrich water, accelerating plant growth and thus disturbing the balance of aquatic plants and animals and affecting water quality. This eutrophication is the most widespread threat to our water quality. The breakdown of organic material uses up oxygen that aquatic plants and animals need to survive, and suspended solids and ammonia can cause fish kills (although such kills have reduced in number). Slurry can also contaminate drinking water with bacteria, parasites and viruses.
	Action plan	Review and strengthen enforcement actions in support of the Good Agricultural Practice Regulations. Additional supplementary measures may emerge following the review during 2009 of the National Action Programme established under these regulations. These measures could for example include solutions such as the use of bio-digestors.

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Wastewater from unsewered properties Participants' concerns Controls are required to ensure that new developments install treatment systems appropriate to geology and soil conditions. There should be a clear responsibility on owners to maintain their systems to an appropriate standard.	Background	Many rural houses and businesses rely on on-site systems (conventional septic tanks or proprietary systems), via soil percolation areas, to treat and dispose of wastewater. To work properly, these treatment facilities must be located in suitable areas and designed, constructed and maintained to appropriate standards.
	Possible effects	If these systems are not working properly, nutrients, organic material, chemicals and bacteria may seep from wastewater into groundwater, contaminating nearby drinking water wells or damaging the quality of receiving rivers, lakes or marine waters.
	Action plan	Strengthen controls on new development. Identify sensitive areas where inspection, maintenance and remedial action will be taken to address impacts from existing on-site systems.

Forestry Participants' concerns The 1946 Forestry Act's mandatory requirement to replant on deep peat sites should be amended. Clearfelling should be restricted with strict controls on coup sizes in sensitive areas.	Background	Acidification: forest canopies can capture sulphur and nitrogen compounds from the atmosphere; rain becomes more acidic as it passes through the canopies to the ground below. Forestry activities can introduce extra nutrients. Road-making and stream-crossing can cause erosion and sediment loss on susceptible soils. Flow pattern changes: the amount of water reaching the soil surface is reduced by evaporation of water intercepted by the canopy. Pesticides may be applied incorrectly.
	Possible effects	Acidification may worsen the chemical balance of receiving waters. In naturally nutrient-poor areas, nutrient enrichment can lead to problems such as algal growth. Mobile sediments may reduce water quality or damage sensitive areas. Clearfelling of forests may change flow patterns. Incorrect application of pesticides may contaminate waters.
	Action plan	Strengthen forestry legislation and codes of practice. Identify sensitive areas where remedial action will be taken to address impacts from afforestation. Note that all activities related to forestry (including private forestry) must comply with the Irish Forest Standard, the first principle of which is sustainable forestry management.

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Physical modifications Participants' concerns A comprehensive registration and authorisation system is needed to control physical modifications, with a structured programme to rehabilitate previously drained rivers. Building is putting increasing pressure on floodplains.	Background	We have physically modified many of our waters for water supply, recreation, transport, flood protection, hydropower, aquaculture and land drainage. Physical modifications can impact physical form either directly by affecting habitats or indirectly by changing natural processes, altering plant and animal communities by reducing their variety or numbers.
	Possible effects	Drained rivers need a mix of pools and shallow riffles and variation of flow patterns, to provide habitats for fish. Migratory fish need to access upstream spawning areas; bridges or weirs can restrict access and reduce spawning success and thus population numbers. Hard structures like ports and harbours can replace or reduce natural habitat. Land drainage, overgrazing, deforestation and cattle access can have an indirect effect, changing how much and how fast water drains off the land, resulting in increased risk of property flooding.
	Action plan	A new national control system for physical modifications is required. The programme identifies rivers where enhancement or investigation is needed to address historical modifications.

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Abstractions Participants' concerns The cumulative impact of abstractions needs to be addressed. Low flows should be used to determine acceptable abstraction limits. Leakage from existing infrastructure should be addressed.	Background	We use large amounts of water supply each day in homes, in agriculture, in industry and in recreation. All of that water has to be treated to a high standard to remove impurities and make it fit for consumption. The vast majority of our abstractions are currently sustainable, but population growth and climate change may mean that some areas will experience a reduction in the available water resource in the future.
	Possible effects	Too much abstraction reduces flow in springs and rivers and causes lower water levels in lakes, wetlands and wells. This can make water supplies unsustainable and adversely affect aquatic plants and animals and wetland areas. In extreme cases river beds may dry up, lake shores can become exposed and, in coastal areas, salt water may seep into groundwater.
	Action plan	Set up a modern national abstraction control system for surface and groundwaters, based on sustainable abstraction levels that take full account of the sensitivity of the waters from which water is abstracted. Action on leakage reduction is addressed under measures to ensure sustainable water use; the programme also identifies waters where historical abstractions must be investigated and addressed.

Climate change Participants' concerns River basin management plans should be proof against climate change, with more emphasis given to climate change impacts and adaptation.	Background	The specific impact of climate change is difficult to predict but it is likely that these changes may add to water management challenges that our waters are facing in the future.
	Possible effects	Heavier winter rainstorms may cause more flash flooding, causing an increase in diffuse pollution loads to our waters from soil run-off and raising demand for flood controls. Summer droughts are more likely and there may be a 40% reduction in drinking water supplies. Temperature changes might give invasive alien species a competitive advantage in our waters, thus affecting biodiversity.
	Action plan	Measures have been assessed for climate change adaptation using European Union recommendations. A Strategic Environmental Assessment has been undertaken to assess the impacts that the action plan could have on the wider environment including climate.

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Invasive alien species Participants' concerns The ornamental plant and animal trade should be regulated. The recommendations from the national invasive species study should be implemented and resourced on an all island basis.	Background	The EPA has major concerns about eight aquatic species of non-native animals or plants that have successfully established themselves in our aquatic and fringing habitats and are damaging our natural flora and fauna.
	Possible effects	There is growing evidence that invasive alien species pose a major threat to our diversity of native plants and animals: for example by preying on them, out-competing for habitat or food, altering habitat or introducing pathogens or parasites.
	Action plan	Prohibit the introduction of species that may be detrimental to native species. Support the ongoing national study of the nature and extent of alien invasive species, their impacts and potential control measures.

Protecting high quality areas Participants' concerns High quality areas have gradually declined since the 1970s when water quality monitoring began and our objective now is to prevent any further deterioration. Protected areas must, without exception, achieve good or High Status to support their designations, with specific targets for protection of priority species.	Background	High quality areas include rivers, lakes and estuarine and coastal areas little affected by human activity; which they are still near natural or pristine conditions, supporting a naturally diverse mix of aquatic wildlife. In addition, there are other designated special areas which are specifically protected under legislation: drinking waters, bathing waters, shellfish waters and areas designated for special habitats and species (Special Areas of Conservation and Special Protection Areas).
	Possible effects	The deterioration or loss of high quality and protected areas is often due to their sensitivity to land use changes in surrounding catchments, such as agriculture, forestry, peat harvesting and rural development activities.
	Action plan	Prioritise the protection of such areas. Identify nature conservation actions

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Appendix A(ii) - Comments on the Draft River Basin Management Plan (22nd December 2008)

The consultation period on the Draft Eastern River Basin District Management Plan ran from 22nd December 2008 to 22nd June 2009. A Strategic Environmental Assessment and Appropriate Assessment under the EU Habitats Directive were prepared, in draft, to accompany the draft Plan. They were also subject to the same statutory consultation process.

Public Consultation is a critical element of the development of the River Basin Management Plan under the WFD as transposed by S.I. 722 of 2003; Article 14 of the Directive refers to public information and consultation on the plan. In order to finalise the Draft Plan and to facilitate Article 14, a report must be published, outlining in a transparent way, how submissions influenced the final RBMP. The implementation timeline of the Directive emphasises that the final plan must be adopted by December 2009; consequently, the submissions report must be delivered prior to this deadline.

To facilitate the consultation, a series of public information events on the Draft Plan were held throughout the Eastern River Basin District. Notices were published in major newspapers, supplemented by radio interviews given by the Eastern River Basin District (ERBD) coordinator. A copy of the Draft Plan, Strategic Environmental Assessment and Appropriate Assessment were made available on the ERBD (www.erbd.ie) and WFD Ireland (www.wfdireland.ie) websites for public information.

A total of 64 submissions were received by the ERBD office through the comments@erbd.ie email address or received in hard copy and a comprehensive process of analysis followed suit. Each official submission was acknowledged and given a unique registration number. Significant comments found within the submissions were also given a unique identification number. The process involved extracting important points and opinions to be incorporated into the plan.

Comments were collated into a series of tables. In summary the tables consist of the following:

- An executive summary which highlights the organisations that made submissions on the Draft Plan;
- A chapter on the key pressures highlighted by the submissions.

These tables lists the number of organisations that made submissions on the Draft RBMP, SEA and AA, the unique submission identification codes and number of pages per submission.

Further detail on the submissions received and their incorporation into the Plan is available in the Submissions Report.

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Submission		Target Document			
Reference Code	Organisation	# Page	RBMP	SEA	AA
ERBD_RBMP_001	Meath County Council	2	✓		
ERBD_RBMP_002	ERBD Advisory Council	3	✓		
ERBD_RBMP_003	DCC	1	✓		
ERBD_RBMP_004	DAFF	2	✓		
ERBD_RBMP_005	IFA	1	✓		
ERBD_RBMP_006	Public	1	✓		
ERBD_RBMP_007	Public	1	✓		
ERBD_RBMP_008	River Vartry Protection Society	4	✓		
ERBD_RBMP_009	North Kildare Trout & Salmon Anglers Assoc.	1	✓		
ERBD_RBMP_010	Clane Trout & Salmon Anglers	3	✓		
ERBD_RBMP_011	Housing & Residential Services	1	✓		
ERBD_RBMP_012	EPA	2	✓		
ERBD_RBMP_013	Wicklow Anglers' Association	2	✓		
ERBD_RBMP_014	Rathdrum Trout Anglers & Environmental Club	2	✓		
ERBD_RBMP_015	Drogheda Port Company	3	✓		
ERBD_RBMP_016	Meath County Council	4	✓		
ERBD_RBMP_017	Public	1	✓		

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Submission		Target Document			
Reference Code	Organisation	# Page	RBMP	SEA	AA
ERBD_RBMP_018	Arklow Town Council	1	✓		
ERBD_RBMP_019	Bremore Ireland Port	1	✓		
ERBD_RBMP_020	Water Supply Project - Dublin Region	1	✓		
ERBD_RBMP_021	Dublin Port Company	56	✓		
ERBD_RBMP_022	Animal & Plant Health Association	3	✓		
ERBD_RBMP_023	Heritage Council	2	✓		
ERBD_RBMP_024	Industrial Heritage Association	1	✓		
ERBD_RBMP_025	Michael Gunn	2	✓		
ERBD_RBMP_026	Laois IFA	1	✓		
ERBD_RBMP_027	Aughrim & District Trout Angling	1	✓		
ERBD_RBMP_028	DEHLG	6		✓	✓
ERBD_RBMP_029	Dept. of Agriculture	17	✓		
ERBD_RBMP_030	ESB	2	✓		
ERBD_RBMP_031	Offaly County Council	15	✓		
ERBD_RBMP_032	Teagasc	22	✓		
ERBD_RBMP_033	Eastern Regional Fisheries Board	24	✓		
ERBD_RBMP_034	Irish Doctors Environmental Association	1	✓		
ERBD_RBMP_035	Central Fisheries Board	6	✓		
ERBD_RBMP_036	Irish Concrete Federation	4	✓		
ERBD_RBMP_037	OPW	2	✓		
ERBD_RBMP_038	Shay Murtagh Ltd.	14	✓		
ERBD_RBMP_039	National Roads Authority	2			
ERBD_RBMP_040	Independent Farmers Association	4	✓		
ERBD_RBMP_041	Failte Ireland	6	✓		
ERBD_RBMP_042	Fingal County Council	18	✓	✓	✓
ERBD_RBMP_043	Kildare County Council	8	✓		
ERBD_RBMP_044	Waterways Ireland	3	✓		
ERBD_RBMP_045	Dodder Anglers Association	1	✓		
ERBD_RBMP_046	An Taisce	16	✓		
ERBD_RBMP_047	Wicklow County Council	2	✓		
ERBD_RBMP_048	Chambers Toxicological Consulting	3	✓		
ERBD_RBMP_049	IBEC	6	✓		
ERBD_RBMP_050	EPA	9	✓	✓	✓
ERBD_RBMP_051	Irish Creamery Milk Suppliers	1	✓		
ERBD_RBMP_052	Meath IFA	2	✓		
ERBD_RBMP_053	Dublin IFA	2	✓		
ERBD_RBMP_054	Bord Na Mona	12	✓		
ERBD_RBMP_055	Dublin City Council	38	✓		
ERBD_RBMP_056	DCENR	2		✓	
ERBD_RBMP_057	IFA	16	✓		
ERBD_RBMP_058	GSI	2	✓		
ERBD_RBMP_059	SWAN	34	✓		
ERBD_RBMP_060	Public	3	✓		
ERBD_RBMP_061	Wicklow IFA	4	✓		
ERBD_RBMP_062	Meath County Council	13	✓		
ERBD_RBMP_063	Westmeath County Council	9	✓		
ERBD_RBMP_064	Coillte	6	✓		

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Key Issues

Submission	Pressure								
Organisation	Wastewater from Industrial Discharges	Quarries, Mines & Landfills	Agriculture	Wastewater from unsewered properties	Forestry	Dangerous Substances	Abstractions	Morphology	Other
Meath County Council	1		1			1	4		8
ERBD Advisory Council	1							3	1
DCC									11
DAFF								1	5
IFA			2						2
Public		1							
Public		1							
River Vartry Protection Society		1					1		1
North Kildare Trout & Salmon Anglers Assoc.	1							3	1
Clane Trout & Salmon Anglers	1							3	1
Housing & Residential Services									1
EPA	1		1						2
Wicklow Anglers' Association									
Rathdrum Trout Anglers & Environmental Club		1							
Drogheda Port Company								1	
Meath County Council	3		3	3			1		4
Public									1
Arklow Town Council	1	1							
Bremore Ireland Port								1	
Water Supply Project - Dublin Region							1		
Dublin Port Company								4	
Animal & Plant Health Association					1	9			
Heritage Council			1				1	1	4
Industrial Heritage Association									1
Michael Gunn	2								1
Laois IFA			9						
Aughrim & District Trout Angling		1							
DEHLG									1
Dept. of Agriculture			4		2	1		1	4
ESB								1	
Offaly County Council		1	2						6
Teagasc			1		3				
Eastern Regional Fisheries Board	2	1		1	2		4	1	45
Irish Doctors Environmental Association	1								1
Central Fisheries Board									2

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Submission	Pressure								
Organisation	Wastewater from Industrial Discharges	Quarries, Mines & Landfills	Agriculture	Wastewater from unsewered properties	Forestry	Dangerous Substances	Abstractions	Morphology	Other
Irish Concrete Federation							1		2
OPW								1	1
Shay Murtagh Ltd.							1		
National Roads Authority							1		
Independent Farmers Association	1								1
Failte Ireland									2
Fingal County Council		1	1	2			1	4	29
Kildare County Council	2		1						2
Waterways Ireland									2
Dodder Anglers Association								2	
An Taisce		1	4		2	2	5	2	26
Wicklow County Council									7
Chambers Toxicological Consulting							1		4
IBEC							1		7
EPA	2		2						24
Irish Creamery Milk Suppliers			1						
Meath IFA			4		1				1
Dublin IFA			4		1				1
Bord Na Mona									15
Dublin City Council									21
DCENR							1	2	6
IFA			4		3		1		8
GSI				1			2		8
SWAN	4	4	2	5	5	2	15	4	59
Public			4						
Wicklow IFA			1						11
Meath County Council	4		5	5			1	1	14
Westmeath County Council									8
Coillte									1
Totals	**27**	**15**	**57**	**17**	**20**	**15**	**43**	**36**	**363**

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Appendix B - Range of Key Supporting Actions (Per Water Management Unit)

Table B1: Range of Key Supporting Actions (Per Water Management Unit)

WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Boyne Estuary Plume Zone	Louth	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Coastal	Dublin Bay	Dublin City	Implement Upstream Programmes of Measures	CROSS
Coastal	Dublin Bay	Dublin City	Survey Banks/Coast	DATA+
Coastal	Dublin Bay	Dublin City	Dumping at Sea Act 1996 - 2004 : Permit required for Dumping at Sea	DS
Coastal	Dublin Bay	Dublin City	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Coastal	Dublin Bay	Dublin City	Harbour dredgings to be suitably disposed of	DS
Coastal	Dublin Bay	Dublin City	Monitor Shipping Activities	DS
Coastal	Dublin Bay	Dublin City	Water Quality Dangerous Substances Regulations, 2001	DS
Coastal	Dublin Bay	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Coastal	Dublin Bay	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Coastal	Dublin Bay	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Coastal	Dublin Bay	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Coastal	Dublin Bay	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Coastal	Dublin Bay	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Coastal	Dublin Bay	Dublin City	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Coastal	Dublin Bay	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Coastal	Dublin Bay	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Coastal	Dublin Bay	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Coastal	Dublin Bay	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Coastal	Dublin Bay	Dublin City	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Coastal	Dublin Bay	Dublin City	Collection system - Network management & operations programme	WWTP
Coastal	Dublin Bay	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
Coastal	Dublin Bay	Dublin City	CSO - Implement FOGG Regulations	WWTP
Coastal	Dublin Bay	DLRCC	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Coastal	Dublin Bay	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Classify Bathing Waters	CROSS
Coastal	Dublin Bay	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Facilitate public participation and provide public information	CROSS
Coastal	Dublin Bay	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Take measures to improve bathing water quality	CROSS
Coastal	Dublin Bay	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Test bathing water compliance	CROSS
Coastal	Dublin Bay	DLRCC	Planning Development Acts 2000 - 2006: Grant, refuse and review licence for developing land	CROSS
Coastal	Dublin Bay	DLRCC	Survey Banks/Coast	DATA+
Coastal	Dublin Bay	DLRCC	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Coastal	Dublin Bay	DLRCC	EC (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations (S.I. 117 of 2003): Improve the availability and use of port reception facilities for ship-generated waste and cargo residues	DS

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Dublin Bay	DLRCC	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Coastal	Dublin Bay	DLRCC	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Coastal	Dublin Bay	DLRCC	Harbour dredgings to be suitably disposed of	DS
Coastal	Dublin Bay	DLRCC	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998): Implement Measures in Phosphorus Regulations Reports	DS
Coastal	Dublin Bay	DLRCC	Monitor Shipping Activities	DS
Coastal	Dublin Bay	DLRCC	Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	DS
Coastal	Dublin Bay	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Coastal	Dublin Bay	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Coastal	Dublin Bay	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Assess effects of a proposed development on a protected site before granting planning permission	ECO
Coastal	Dublin Bay	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Coastal	Dublin Bay	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Coastal	Dublin Bay	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Coastal	Dublin Bay	DLRCC	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Coastal	Dublin Bay	DLRCC	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006):Determine causes of non compliance and corrective actions	ECO
Coastal	Dublin Bay	DLRCC	For sites not at favourable conservation Status Set targets and timeframe for achieving status	HS
Coastal	Dublin Bay	DLRCC	LA to adopt a common approach to issuance of Section 4 and 16 licences	S4
Coastal	Dublin Bay	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
Coastal	Dublin Bay	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
Coastal	Dublin Bay	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Dublin Bay	DLRCC	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Coastal	Dublin Bay	DLRCC	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Coastal	Dublin Bay	DLRCC	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Coastal	Dublin Bay	DLRCC	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Coastal	Dublin Bay	DLRCC	Collection system - Network management & operations programme	WWTP
Coastal	Dublin Bay	DLRCC	Collection System - Upgrades and rehabilitation	WWTP
Coastal	Dublin Bay	DLRCC	CSO - Implement FOGG Regulations	WWTP
Coastal	Dublin Bay	DLRCC	CSOs to comply with GDSDS recommendations	WWTP
Coastal	Dublin Bay	DLRCC	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Coastal	Dublin Bay	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO
Coastal	Dublin Bay	Fingal	EC (Natural Habitats) Regulations 1997- 2005	ECO
Coastal	Dublin Bay	Fingal	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Coastal	Irish Sea Dublin (HA 09)	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Irish Sea Dublin (HA 09)	DLRCC	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
Coastal	Irish Sea Dublin (HA 09)	DLRCC	Planning and Development Regulations 2001 - 2007	CROSS
Coastal	Irish Sea Dublin (HA 09)	DLRCC	Planning Development Acts 2000 - 2006	CROSS
Coastal	Irish Sea Dublin (HA 09)	DLRCC	Further investigation/monitoring required	DATA+
Coastal	Irish Sea Dublin (HA 09)	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO
Coastal	Irish Sea Dublin (HA 09)	DLRCC	EC (Natural Habitats) Regulations 1997- 2005	ECO
Coastal	Irish Sea Dublin (HA 09)	DLRCC	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006)	ECO
Coastal	Irish Sea Dublin (HA 09)	DLRCC	Foreshore Act (1933)	MORP
Coastal	Irish Sea Dublin (HA 09)	Fingal	Further investigation/monitoring required	DATA+
Coastal	Malahide Bay	Fingal	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS
Coastal	Malahide Bay	Fingal	Implement Upstream Programmes of Measures	CROSS
Coastal	Malahide Bay	Fingal	Survey Banks/Coast	DATA+
Coastal	Malahide Bay	Fingal	Water Quality Dangerous Substances Regulations, 2001	DS
Coastal	Malahide Bay	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Coastal	Malahide Bay	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Coastal	Malahide Bay	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Coastal	Malahide Bay	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Coastal	Malahide Bay	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Coastal	Malahide Bay	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Coastal	Malahide Bay	Fingal	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Determine causes of non compliance and corrective actions	ECO
Coastal	Malahide Bay	Fingal	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Coastal	Malahide Bay	Fingal	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Coastal	Malahide Bay	Fingal	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Coastal	Malahide Bay	Fingal	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Coastal	Malahide Bay	Fingal	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Coastal	Malahide Bay	Fingal	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Coastal	Malahide Bay	Fingal	Collection system - Network management & operations programme	WWTP
Coastal	Malahide Bay	Fingal	Collection System - Upgrades and rehabilitation	WWTP
Coastal	Malahide Bay	Fingal	CSO - Implement FOGG Regulations	WWTP
Coastal	Malahide Bay	Fingal	Tertiary Treatment	WWTP
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	WWTP
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Industrial waste water entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Coastal	Malahide Bay	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e.'s >10,000 discharging to coastal waters	WWTP
Coastal	Malahide Bay	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Coastal	Malahide Bay	Fingal	Water Services Act 2007	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Implement Upstream Programmes of Measures	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Planning Development Acts 2000 - 2006	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Water Quality Dangerous Substances Regulations, 2001	DS
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Industrial waste water entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e.'s >10,000 discharging to coastal waters	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Fingal	Water Services Act 2007	WWTP
Coastal	Northwestern Irish Sea (HA 08)	Meath	Dumping at Sea Act 1996 - 2004 : Permit required for Dumping at Sea	DS
Coastal	Northwestern Irish Sea (HA 08)	Meath	Implement Upstream Programmes of Measures	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Meath	Planning and Development Regulations 2001 - 2007	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Meath	Planning Development Acts 2000 - 2006	CROSS
Coastal	Northwestern Irish Sea (HA 08)	Meath	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Coastal	Northwestern Irish Sea (HA 08)	Meath	EPA Waste (Licensing) Regulations, 2004: Grant and refuse waste licences subject to set-limits to reduce pollution effects	IPPC
Coastal	Northwestern Irish Sea (HA 08)	Meath	EPA Waste (Licensing) Regulations, 2004: Review waste licences	IPPC
Coastal	Northwestern Irish Sea (HA 08)	Meath	EPA Waste (Licensing) Regulations, 2004: Upgrade waste licensed facilities management structures and practices to best available technology	IPPC

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Northwestern Irish Sea (HA 08)	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Rockabill	Fingal	Further investigation/monitoring required	DATA+
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wexford	Further investigation/monitoring required	DATA+
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards): Carry out full Environmental Impact Assessment prior to development in accordance with legislation	CROSS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards): Deliver certification for proposed development on completion of satisfactory EIS	CROSS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Implement Upstream Programmes of Measures	CROSS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Further investigation/monitoring required	DATA+
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Survey Banks/Coast	DATA+
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EC (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations (S.I. 117 of 2003): Improve the availability and use of port reception facilities for ship-generated waste and cargo residues	DS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Monitor Shipping Activities	DS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	DS
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EPA Waste (Licensing) Regulations, 2004: Grant and refuse waste licences subject to set-limits to reduce pollution effects	IPPC
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EPA Waste (Licensing) Regulations, 2004: Review waste licences	IPPC
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	EPA Waste (Licensing) Regulations, 2004: Upgrade waste licensed facilities management structures and practices to best available technology	IPPC
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Assess need for barrier removal based on risk and expert judgement	MORP
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Assess the effects of coastal defences	MORP
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Consider morphology within the current development (SEA, EIA, etc) appraisal process	MORP
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Foreshore Act (1933): Licence required for any works on the foreshore.	MORP
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Implement Coastal Zone Management policies and recommendations	MORP
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Review of marine departmental responsibilities and legislative coverage of transitional and coastal water bodies.	MORP

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Southwestern Irish Sea - Brittas Bay (HA 10)	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Assess need for barrier removal based on risk and expert judgement	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Assess the effects of coastal defences	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Classify Bathing Waters	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Facilitate public participation and provide public information	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Take measures to improve bathing water quality	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Bathing Water Quality Regulations (S.I. 79 of 2008): Test bathing water compliance	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Planning and Development Regulations 2001 - 2007: Include an Environmental Report with Development Plans	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Planning Development Acts 2000 - 2006	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Survey Banks/Coast	DATA+
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998): Implement Measures in Phosphorus Regulations Reports	DS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	DS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Determine causes of non compliance and corrective actions	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	IPPC
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Consider morphology within the current development (SEA, EIA, etc) appraisal process	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Foreshore Act (1933): Licence required for any works on the foreshore.	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Implement Coastal Zone Management policies and recommendations	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Review Dredging Practice	MORP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	DLRCC	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Planning Development Acts 2000 - 2006: Grant, refuse and review licence for developing land	CROSS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Survey Banks/Coast	DATA+
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Monitor Shipping Activities	DS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Enforce Regulations on Septic Systems	Septic
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Collection system - Network management & operations programme	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	CSO - Implement FOGG Regulations	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Industrial waste water entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e.'s >10,000 discharging to coastal waters	WWTP
Coastal	Southwestern Irish Sea - Killiney Bay (HA10)	Wicklow	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Groundwater	Aleckafin_CL	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Aleckafin_CL	Kildare	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Aleckafin_CL	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Arklow_Urban	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Arklow_Urban	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Arklow_Urban	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Arklow_Urban	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Arklow_Urban	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Ashbourne Urban Nth	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ashbourne Urban Nth	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Ashbourne Urban Nth	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ashbourne Urban Nth	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Ashbourne Urban Nth	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Ashbourne Urban Sth	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ashbourne Urban Sth	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Ashbourne Urban Sth	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Ashbourne Urban Sth	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Ashbourne Urban Sth	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Ashford S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Ashford S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Ashford S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Ashford S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Ashford S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Ashford S&G	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ashford S&G	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Ashford S&G	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Athboy (001)	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Athboy (001)	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Athboy (001)	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Athboy (001)	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Athboy (001)	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Athboy (001)	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Athboy (001)	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Athboy (001)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Athboy (001)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Athboy (001)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Athboy (001)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Athboy (001)	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Athboy (001)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Athboy (001)	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Athboy (001)	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Athboy (001)	Meath	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Athboy (001)	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Athboy (001)	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Athboy (001)	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Athboy (001)	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Athboy (001)	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Athboy (001)	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Athboy (001)	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Athboy (001)	Offaly	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Athboy (001)	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Athboy (001)	Offaly	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Athboy (001)	Offaly	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Athboy (001)	Offaly	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Athboy (001)	Offaly	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Athboy (001)	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Athboy (001)	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Athboy (001)	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Athboy (001)	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Athboy (001)	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Athboy (001)	Westmeath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Athboy (001)	Westmeath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Athboy (001)	Westmeath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Athboy (001)	Westmeath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Athboy (001)	Westmeath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bailieborough	Cavan	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Bailieborough	Cavan	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Bailieborough	Cavan	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bailieborough	Cavan	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bailieborough	Cavan	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bailieborough	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Bailieborough	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Bailieborough	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bailieborough	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Bailieborough	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Balbriggan	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Balbriggan	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Balbriggan	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Balbriggan	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Balbriggan	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Balbriggan	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Balbriggan Urban	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Balbriggan Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Balbriggan Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Balbriggan Urban	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Balbriggan Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Balbriggan Urban	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Balbriggan Urban	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Ballany S&G	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Ballany S&G	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Ballany S&G	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Ballany S&G	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Ballany S&G	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Ballany S&G	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ballany S&G	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Ballany S&G	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Ballany S&G	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Ballany S&G	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Ballany S&G	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Ballany S&G	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Ballany S&G	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Ballymore Eustace S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Ballymore Eustace S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Ballymore Eustace S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Ballymore Eustace S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Ballymore Eustace S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Ballymore Eustace S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Ballymore Eustace S&G	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Ballymore Eustace S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Balrothery	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Balrothery	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Balrothery	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Balrothery	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Balrothery	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Balrothery	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Balrothery	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Basketstown_LF	Meath	EPA Waste (Licensing) Regulations, 2004	IPPC
Groundwater	Basketstown_LF	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Basketstown_LF	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Basketstown_LF	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bettystown	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Bettystown	Meath	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Bettystown	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Bettystown	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Bettystown	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Bettystown	Meath	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Bettystown	Meath	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Bettystown	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Bettystown	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Bettystown	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bettystown	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bettystown	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bettystown	Meath	Well construction practices/requirements	WWTP
Groundwater	Blessington S&G	Kildare	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Blessington S&G	Kildare	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Blessington S&G	Kildare	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Blessington S&G	Kildare	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Blessington S&G	Kildare	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Blessington S&G	Kildare	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Blessington S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Blessington S&G	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Blessington S&G	Kildare	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Blessington S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Blessington S&G	Wicklow	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Blessington S&G	Wicklow	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Blessington S&G	Wicklow	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Blessington S&G	Wicklow	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Blessington S&G	Wicklow	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Blessington S&G	Wicklow	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Blessington S&G	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Blessington S&G	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Blessington S&G	Wicklow	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Blessington S&G	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Boyle_CL	Louth	Further investigation/monitoring required	DATA+
Groundwater	Boyle_CL	Louth	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Boyle_CL	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Boyle_CL	Louth	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Boyle_CL	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bray Urban	DLRCC	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Bray Urban	DLRCC	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Bray Urban	DLRCC	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Bray Urban	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Bray Urban	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Bray Urban	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Bray Urban	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Bray Urban	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Castlekeeran S&G	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Castlekeeran S&G	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Castlekeeran S&G	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Castlekeeran S&G	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Curragh S&G	Kildare	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Curragh S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Curragh S&G	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Curragh S&G	Kildare	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Curragh S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Curragh S&G	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Curragh S&G	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Donore	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Donore	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Donore	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Donore	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Drogheda	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Drogheda	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Drogheda	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Drogheda	Louth	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Drogheda	Louth	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Drogheda	Louth	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Drogheda	Louth	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Drogheda	Louth	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Drogheda	Louth	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Drogheda	Louth	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Drogheda	Louth	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Drogheda	Louth	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Drogheda	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Drogheda	Louth	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Groundwater	Drogheda	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Drogheda	Louth	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Drogheda	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Drogheda	Louth	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda	Louth	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda	Louth	Well construction practices/requirements	WWTP
Groundwater	Drogheda	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Drogheda	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Drogheda	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Drogheda	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Drogheda	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Drogheda	Meath	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Drogheda	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Drogheda	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Drogheda	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Drogheda	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Drogheda	Meath	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Drogheda	Meath	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Drogheda	Meath	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Drogheda	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Drogheda	Meath	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Groundwater	Drogheda	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Drogheda	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Drogheda	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Drogheda	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda	Meath	Well construction practices/requirements	WWTP
Groundwater	Drogheda Urban	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Drogheda Urban	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Drogheda Urban	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Drogheda Urban	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Drogheda Urban	Louth	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Drogheda Urban	Louth	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Drogheda Urban	Louth	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Drogheda Urban	Louth	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Drogheda Urban	Louth	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Drogheda Urban	Louth	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Drogheda Urban	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Drogheda Urban	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Drogheda Urban	Louth	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Drogheda Urban	Louth	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda Urban	Louth	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda Urban	Louth	Well construction practices/requirements	WWTP
Groundwater	Drogheda Urban	Louth	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Drogheda Urban	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Drogheda Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Drogheda Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Drogheda Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Drogheda Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Drogheda Urban	Meath	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Drogheda Urban	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Drogheda Urban	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Drogheda Urban	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Drogheda Urban	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Drogheda Urban	Meath	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Drogheda Urban	Meath	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Drogheda Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Drogheda Urban	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Drogheda Urban	Meath	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Drogheda Urban	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda Urban	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Drogheda Urban	Meath	Well construction practices/requirements	WWTP
Groundwater	Drogheda Urban	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Drogheda Urban	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Drogheda_LF	Louth	Further investigation/monitoring required	DATA+
Groundwater	Drogheda_LF	Louth	EPA Waste (Licensing) Regulations, 2004	IPPC
Groundwater	Drogheda_LF	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Drogheda_LF	Louth	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Drogheda_LF	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin	Kildare	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Dublin	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin	Kildare	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Dublin	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Dublin	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Dublin	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin	Meath	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Dublin	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Dublin City	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	Dublin City	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dublin Urban	Dublin City	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	Dublin City	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	Dublin City	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Dublin Urban	Dublin City	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Dublin Urban	Dublin City	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Dublin Urban	Dublin City	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Dublin Urban	Dublin City	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Dublin Urban	Dublin City	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	Dublin City	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	Dublin City	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	Dublin City	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Dublin City	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	Dublin City	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin Urban	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dublin Urban	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	DLRCC	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Dublin Urban	DLRCC	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Dublin Urban	DLRCC	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Dublin Urban	DLRCC	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Dublin Urban	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	DLRCC	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	DLRCC	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	DLRCC	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	DLRCC	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	DLRCC	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	DLRCC	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin Urban	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dublin Urban	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	Fingal	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Dublin Urban	Fingal	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Dublin Urban	Fingal	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Dublin Urban	Fingal	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Dublin Urban	Fingal	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Dublin Urban	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	Fingal	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin Urban	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Dublin Urban	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	Kildare	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Dublin Urban	Kildare	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Dublin Urban	Kildare	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Dublin Urban	Kildare	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Dublin Urban	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	Kildare	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dublin Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Dublin Urban	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Dublin Urban	Meath	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Dublin Urban	Meath	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Dublin Urban	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	Meath	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Dublin Urban	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dublin Urban	Meath	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Dublin Urban	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dublin Urban	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dublin Urban	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dublin Urban	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dublin Urban	South Dublin	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Dublin Urban	South Dublin	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Dublin Urban	South Dublin	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Dublin Urban	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
Groundwater	Dublin Urban	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Groundwater	Dublin Urban	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dublin Urban	South Dublin	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dublin Urban	South Dublin	Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	WWTP
Groundwater	Dublin Urban	South Dublin	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	South Dublin	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dublin Urban	South Dublin	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Dublin Urban	South Dublin	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Duleek	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Duleek	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Duleek	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Duleek	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Duleek	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Duleek	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Duleek	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Duleek	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Duleek	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Duleek	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Duleek	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Duleek	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Duleek	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Duleek	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Duleek	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Duleek	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Duleek	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Duleek	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Duleek	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Duleek	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Duleek	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Dunshaughlin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Dunshaughlin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Dunshaughlin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Dunshaughlin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Dunshaughlin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Dunshaughlin	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Dunshaughlin	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dunshaughlin	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Dunshaughlin	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Enniskerry S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Enniskerry S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Enniskerry S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Enniskerry S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Enniskerry S&G	Wicklow	Restrict use of pesticides within groundwater Source Protection Zones	Chem

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Enniskerry S&G	Wicklow	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Enniskerry S&G	Wicklow	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Enniskerry S&G	Wicklow	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Enniskerry S&G	Wicklow	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Enniskerry S&G	Wicklow	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Enniskerry S&G	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Enniskerry S&G	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Enniskerry S&G	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Enniskerry S&G	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Fassaroe_LF	Wicklow	EPA Waste (Licensing) Regulations, 2004	IPPC
Groundwater	Fassaroe_LF	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Fassaroe_LF	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Fassaroe_LF	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Gormanstown S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Gormanstown S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Gormanstown S&G	Wicklow	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Gormanstown S&G	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Gormanstown S&G	Wicklow	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Gormanstown S&G	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Greystones Urban	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Greystones Urban	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Greystones Urban	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Greystones Urban	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Greystones Urban	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Hill of Tara	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Hill of Tara	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Hill of Tara	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Hill of Tara	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Hynestown	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Hynestown	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Hynestown	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Hynestown	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Hynestown	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Hynestown	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Hynestown	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcoole S&G	Wicklow	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Kilcoole S&G	Wicklow	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Kilcoole S&G	Wicklow	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Kilcoole S&G	Wicklow	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Kilcoole S&G	Wicklow	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Kilcoole S&G	Wicklow	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Kilcoole S&G	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Kilcoole S&G	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Kilcoole S&G	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilcullen	DLRCC	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Kilcullen	DLRCC	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Kilcullen	DLRCC	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilcullen	DLRCC	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	DLRCC	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	Kildare	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Kilcullen	Kildare	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Kilcullen	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Kilcullen	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Kilcullen	Kildare	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Kilcullen	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilcullen	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	South Dublin	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Kilcullen	South Dublin	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Kilcullen	South Dublin	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Kilcullen	South	Avoid sewer systems in Inner Source Protection Zones	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
		Dublin		
Groundwater	Kilcullen	South Dublin	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilcullen	South Dublin	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	South Dublin	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Kilcullen	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Kilcullen	Wicklow	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Kilcullen	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilcullen	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Kilcullen	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Cavan	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Cavan	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Cavan	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Cavan	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	KILLYCONNY BOG (CLOGHBALLY)	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilrathmurry S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Kilrathmurry S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Longwood	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Longwood	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Longwood	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Longwood	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Longwood	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lough Lene	Meath	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Lough Lene	Meath	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Lough Lene	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lough Lene	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lough Lene	Meath	Well construction practices/requirements	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Lough Lene	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lough Lene	Westmeath	Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	DATA+
Groundwater	Lough Lene	Westmeath	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Lough Lene	Westmeath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lough Lene	Westmeath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Lough Lene	Westmeath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lough Lene	Westmeath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lough Lene	Westmeath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lough Lene	Westmeath	Well construction practices/requirements	WWTP
Groundwater	Lusk-Bog of the Ring	Fingal	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Groundwater	Lusk-Bog of the Ring	Fingal	Licensing system for groundwater abstractions	ABS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Lusk-Bog of the Ring	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Lusk-Bog of the Ring	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Lusk-Bog of the Ring	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lusk-Bog of the Ring	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Lusk-Bog of the Ring	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Lusk-Bog of the Ring	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lusk-Bog of the Ring	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-Bog of the Ring	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-Bog of the Ring	Meath	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Groundwater	Lusk-Bog of the Ring	Meath	Licensing system for groundwater abstractions	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Lusk-Bog of the Ring	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Lusk-Bog of the Ring	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Lusk-Bog of the Ring	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Lusk-Bog of the Ring	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lusk-Bog of the Ring	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-Bog of the Ring	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-Bog of the Ring	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Lusk-Bog of the Ring	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lusk-East	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Lusk-East	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lusk-East	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Lusk-East	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Lusk-East	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lusk-East	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-East	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-West	Fingal	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Lusk-West	Fingal	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Lusk-West	Fingal	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Lusk-West	Fingal	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Lusk-West	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lusk-West	Fingal	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Lusk-West	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Lusk-West	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-West	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Lusk-West	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Lusk-West	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Lusk-West	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Lusk-West	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Lusk-West	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Lusk-West	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Lusk-West	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-West	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Lusk-West	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Lusk-West	Meath	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	MOUNT HEVEY BOG	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	MOUNT HEVEY BOG	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	MOUNT HEVEY BOG	Westmeath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	MOUNT HEVEY BOG	Westmeath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Moynalty	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Moynalty	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Moynalty	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Moynalty	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Moynalty	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Moynalty	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Moynalty	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Moynalty	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Moynalty	Meath	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Moynalty	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Moynalty	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Moynalty	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Moynalty	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Moynalty	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Moynalty	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Moynalvy	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Moynalvy	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Moynalvy	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Moynalvy	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Naas	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Naas	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Naas	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Naas	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Naas	Kildare	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Naas	Kildare	Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	DS
Groundwater	Naas	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Naas	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Naas	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Naas	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Naas	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Naas	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Naas Bedrock Nth Urban	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Naas Bedrock Nth Urban	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Naas Bedrock Nth Urban	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Naas Bedrock Sth Urban	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Naas Bedrock Sth Urban	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Naas Bedrock Sth Urban	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Naas Bedrock Sth Urban	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Naas Bedrock Sth Urban	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Naas_CL	Kildare	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Naas_CL	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Naas_CL	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Naas_CL	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Naas_SG Urban	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Naas_SG Urban	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Naas_SG Urban	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Navan Nth Urban	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Navan Nth Urban	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Navan Nth Urban	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Navan Nth Urban	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Nth Urban	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Orebody	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Navan Orebody	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Navan Orebody	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Navan Orebody	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Navan Orebody	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Navan Orebody	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Navan Orebody	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Orebody	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Orebody	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Navan Orebody	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Navan Orebody 2	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Navan Orebody 2	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Navan Orebody 2	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Navan Orebody 2	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Orebody 2	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Sth Urban	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Navan Sth Urban	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Navan Sth Urban	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Navan Sth Urban	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Sth Urban	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Navan Tailings	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Navan Tailings	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Navan Tailings	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Newbridge Urban	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Newbridge Urban	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Newbridge Urban	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	NEWTOWN LOUGH	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	NEWTOWN LOUGH	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	NEWTOWN LOUGH	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	NEWTOWN LOUGH	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	NEWTOWN LOUGH	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	NEWTOWN LOUGH	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	NEWTOWN LOUGH	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	NEWTOWN LOUGH	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	NEWTOWN LOUGH	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	NEWTOWN LOUGH	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	NEWTOWN LOUGH	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	NEWTOWN LOUGH	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	NEWTOWN LOUGH	Westmeath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	NEWTOWN LOUGH	Westmeath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Old Kilcullen S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Old Kilcullen S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Old Kilcullen S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Old Kilcullen S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Old Kilcullen S&G	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Old Kilcullen S&G	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Old Kilcullen S&G	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	RAHEENMORE BOG	Offaly	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	RAHEENMORE BOG	Offaly	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Realtage	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Realtage	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Realtage	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Realtage	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Rush Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Rush Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Rush Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Rye Water Valley GWDTE	Kildare	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Rye Water Valley GWDTE	Kildare	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Rye Water Valley GWDTE	Kildare	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Rye Water Valley GWDTE	Kildare	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Rye Water Valley GWDTE	Kildare	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Rye Water Valley GWDTE	Kildare	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Rye Water Valley GWDTE	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Rye Water Valley GWDTE	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Rye Water Valley GWDTE	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Rye Water Valley GWDTE	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Rye Water Valley GWDTE	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Rye Water Valley GWDTE	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Rye Water Valley GWDTE	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Rye Water Valley GWDTE	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Rye Water Valley GWDTE	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Rye Water Valley GWDTE	Meath	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Rye Water Valley GWDTE	Meath	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Rye Water Valley GWDTE	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Rye Water Valley GWDTE	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Rye Water Valley GWDTE	Meath	Water Services Act 2007	WWTP
Groundwater	Skerries Nth Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Skerries Nth Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Skerries Nth Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Skerries Sth Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Skerries Sth Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Skerries Sth Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Skerries Sth Urban	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Skerries Sth Urban	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Swords	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Swords	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Swords	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Swords	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Swords	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Swords	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Swords Urban	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Swords Urban	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Swords Urban	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Swords Urban	Fingal	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords Urban	Fingal	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Swords_CL	Fingal	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Swords_CL	Fingal	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Swords_CL	Fingal	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Swords_CL	Fingal	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Tinnakilly_CL	Wicklow	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Tinnakilly_CL	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Tinnakilly_CL	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Tinnakilly_CL	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Tinnakilly_CL	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Tinnakilly_CL	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Trim	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Trim	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Trim	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Trim	Kildare	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Trim	Kildare	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Trim	Kildare	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Trim	Kildare	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Trim	Kildare	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Trim	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Trim	Kildare	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Trim	Kildare	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Trim	Kildare	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Trim	Kildare	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Trim	Kildare	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim	Kildare	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Trim	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Trim	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Trim	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Trim	Louth	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Trim	Louth	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Trim	Louth	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Trim	Louth	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Trim	Louth	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Trim	Louth	License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	DS
Groundwater	Trim	Louth	Report and audit sales and usage of pesticides by sector	DS
Groundwater	Trim	Louth	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Trim	Louth	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Trim	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Trim	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Trim	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Trim	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Trim	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Trim	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Trim	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Trim	Meath	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Trim	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Trim	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Trim	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Trim	Meath	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Trim	Meath	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Trim	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Trim	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Trim	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Trim	Meath	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Trim	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Trim	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Trim	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Trim	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Trim	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Trim	Offaly	Restrict use of pesticides within groundwater Source Protection Zones	Chem
Groundwater	Trim	Offaly	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Trim	Offaly	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Trim	Offaly	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Trim	Offaly	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Groundwater	Trim	Offaly	Water Quality Dangerous Substances Regulations, 2001	DS
Groundwater	Trim	Offaly	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Trim	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Trim	Offaly	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Trim	Offaly	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Trim	Offaly	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Trim	Offaly	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Trim Urban	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Trim Urban	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Trim Urban	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Trim Urban	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Trim Urban	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Walkinstown_CL	South Dublin	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Groundwater	Walkinstown_CL	South Dublin	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Walkinstown_CL	South Dublin	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Walkinstown_CL	South Dublin	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Further investigation/monitoring required	DATA+
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Mine discharge to be suitably treated	DS
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Protection of Groundwater Regulations (S.I. 41 of 1999): Test the effect of discharge on groundwater; test groundwater compliance	DS
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow Central (Avoca Mine)	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow East	DLRCC	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wicklow East	DLRCC	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wicklow East	DLRCC	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow East	DLRCC	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow East	DLRCC	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow East	Wicklow	Water Supplies Act 1942	ABS
Groundwater	Wicklow East	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Wicklow East	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Wicklow East	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Wicklow East	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Wicklow East	Wicklow	EC (Natural Habitats) Regulations 1997- 2005	ECO
Groundwater	Wicklow East	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Wicklow East	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wicklow East	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wicklow East	Wicklow	Avoid sewer systems in Inner Source Protection Zones	WWTP
Groundwater	Wicklow East	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow East	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Wicklow East	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow South	Wexford	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wicklow South	Wexford	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow South	Wicklow	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wicklow South	Wicklow	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wicklow South	Wicklow	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wicklow South	Wicklow	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wicklow South	Wicklow	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wilkinstown	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Wilkinstown	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Wilkinstown	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Wilkinstown	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Groundwater	Wilkinstown	Louth	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Wilkinstown	Louth	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Wilkinstown	Louth	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Wilkinstown	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Wilkinstown	Louth	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wilkinstown	Louth	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wilkinstown	Louth	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wilkinstown	Louth	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wilkinstown	Louth	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wilkinstown	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Groundwater	Wilkinstown	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Groundwater	Wilkinstown	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Groundwater	Wilkinstown	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
Groundwater	Wilkinstown	Meath	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
Groundwater	Wilkinstown	Meath	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
Groundwater	Wilkinstown	Meath	EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	DS
Groundwater	Wilkinstown	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Groundwater	Wilkinstown	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
Groundwater	Wilkinstown	Meath	Introduce design and construction codes for areas of extreme groundwater vulnerability	WWTP
Groundwater	Wilkinstown	Meath	Assess risk groundwater pollution when designing and constructing SUDS alternatives	WWTP
Groundwater	Wilkinstown	Meath	Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	WWTP
Groundwater	Wilkinstown	Meath	Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	WWTP
Lake	Acurry (Lough)	Cavan	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Acurry (Lough)	Cavan	National Water Pricing Policy Framework (1998)	ABS
Lake	Acurry (Lough)	Cavan	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Acurry (Lough)	Cavan	Record daily abstraction rates	ABS
Lake	Acurry (Lough)	Cavan	Record daily water level	ABS
Lake	Acurry (Lough)	Cavan	Water Supplies Act 1942	ABS
Lake	Acurry (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Acurry (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Acurry (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Lake	Acurry (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
Lake	Acurry (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chem
Lake	Annagh Lough or White Lough	Meath	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR
Lake	Annagh Lough or White Lough	Meath	National Water Pricing Policy Framework (1998)	ABS
Lake	Annagh Lough or White Lough	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Annagh Lough or White Lough	Meath	Water Supplies Act 1942	ABS
Lake	Annagh Lough or White Lough	Meath	Implement Forestry and Water Quality Guidelines	FOR
Lake	Annagh Lough or White Lough	Meath	Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	FOR
Lake	Annagh Lough or White Lough	Meath	Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure
Lake	Annagh Lough or White Lough	Meath	Forestry Act 1946 and 1988	Manure
Lake	Annagh Lough or White Lough	Westmeath	Implement Forestry and Water Quality Guidelines	FOR

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Annagh Lough or White Lough	Westmeath	Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	FOR
Lake	Annagh Lough or White Lough	Westmeath	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR
Lake	Annagh Lough or White Lough	Westmeath	Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure
Lake	Bane (Lough)	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Bane (Lough)	Meath	National Water Pricing Policy Framework (1998)	ABS
Lake	Bane (Lough)	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Bane (Lough)	Meath	Record daily abstraction rates	ABS
Lake	Bane (Lough)	Meath	Record daily water level	ABS
Lake	Bane (Lough)	Meath	Further investigation/monitoring required	DATA+
Lake	Bane (Lough)	Westmeath	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Lake	Bane (Lough)	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Bane (Lough)	Westmeath	National Water Pricing Policy Framework (1998)	ABS
Lake	Bane (Lough)	Westmeath	Record daily abstraction rates	ABS
Lake	Bane (Lough)	Westmeath	Record daily water level	ABS
Lake	Bane (Lough)	Westmeath	Further investigation/monitoring required	DATA+
Lake	Ben Lough	Westmeath	Further investigation/monitoring required	DATA+
Lake	Bray Lower (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Bray Lower (Lough)	Wicklow	Further investigation/monitoring required	DATA+
Lake	Bray Lower (Lough)	Wicklow	Survey Banks/Coast	DATA+
Lake	Bray Lower (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Bray Lower (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Bray Lower (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Bray Lower (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Bray Lower (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Bray Lower (Lough)	Wicklow	Develop guidance on suites of measures for different habitats	HS
Lake	Bray Lower (Lough)	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Bray Upper (Lough)	Wicklow	Further investigation/monitoring required	DATA+
Lake	Doo (Lough)	Meath	National Water Pricing Policy Framework (1998)	ABS
Lake	Doo (Lough)	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Doo (Lough)	Meath	Water Supplies Act 1942	ABS
Lake	Doo (Lough)	Meath	Further investigation/monitoring required	DATA+
Lake	Drumkeery Lough	Cavan	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Lake	Drumkeery Lough	Cavan	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Drumkeery Lough	Cavan	National Water Pricing Policy Framework (1998)	ABS
Lake	Drumkeery Lough	Cavan	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Drumkeery Lough	Cavan	Record daily abstraction rates	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Drumkeery Lough	Cavan	Record daily water level	ABS
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Drumkeery Lough	Cavan	Further investigation/monitoring required	DATA+
Lake	Drumkeery Lough	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Drumkeery Lough	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Drumkeery Lough	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Drumkeery Lough	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Drumkeery Lough	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Drumkeery Lough	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Drumkeery Lough	Cavan	Develop guidance on suites of measures for different habitats	HS
Lake	Drumkeery Lough	Cavan	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure
Lake	Drumkeery Lough	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Drumkeery Lough	Cavan	Develop septic system management programme	Septic
Lake	Drumkeery Lough	Cavan	Enforce Regulations on Septic Systems	Septic
Lake	Drumkeery Lough	Cavan	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Lake	Glass (Lough)	Meath	National Water Pricing Policy Framework (1998)	ABS
Lake	Glass (Lough)	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Glass (Lough)	Meath	Further investigation/monitoring required	DATA+
Lake	Glenasmole Reservoirs (068)	South Dublin	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Glenasmole Reservoirs (068)	South Dublin	Maintain good hydrological status	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	National Water Pricing Policy Framework (1998)	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	Record daily abstraction rates	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	Record daily water level	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Glenasmole Reservoirs (068)	South Dublin	Water Supplies Act 1942	ABS
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chem
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Glenasmole Reservoirs (068)	South Dublin	Survey Banks/Coast	DATA+
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Glenasmole Reservoirs (068)	South Dublin	Develop guidance on suites of measures for different habitats	HS
Lake	Glenasmole Reservoirs (068)	South Dublin	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Glenasmole Reservoirs (068)	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Lake	Glenasmole Reservoirs (068)	South Dublin	Water Services Act 2007	WWTP
Lake	Glenasmole Reservoirs (070)	South Dublin	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Glenasmole Reservoirs (070)	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	National Water Pricing Policy Framework (1998)	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	Record daily abstraction rates	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	Record daily water level	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	Water Supplies Act 1942	ABS
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chem
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Glenasmole Reservoirs (070)	South Dublin	Survey Banks/Coast	DATA+
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Glenasmole Reservoirs (070)	South Dublin	Develop guidance on suites of measures for different habitats	HS
Lake	Glenasmole Reservoirs (070)	South Dublin	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Glenasmole Reservoirs (070)	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Lake	Glenasmole Reservoirs (070)	South Dublin	Water Services Act 2007	WWTP
Lake	Glendalough Lower Lake	Wicklow	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR
Lake	Glendalough Lower Lake	Wicklow	Forest Service - Protocol on acid sensitive areas	FOR
Lake	Glendalough Lower Lake	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
Lake	Glendalough Lower Lake	Wicklow	Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	FOR
Lake	Glendalough Lower Lake	Wicklow	Update protocol on acid sensitive areas based on acid sensitive areas map and research	FOR
Lake	Glendalough Lower Lake	Wicklow	Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure
Lake	Glendalough Lower Lake	Wicklow	Forestry Act 1946 and 1988	Manure
Lake	Glendalough Upper Lake	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Glendalough Upper Lake	Wicklow	Further investigation/monitoring required	DATA+
Lake	Glendalough Upper Lake	Wicklow	Survey Banks/Coast	DATA+
Lake	Glendalough Upper Lake	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Reintroduce native species; license introduction of non native species	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Glendalough Upper Lake	Wicklow	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Glendalough Upper Lake	Wicklow	Forest Service - Protocol on acid sensitive areas	FOR
Lake	Glendalough Upper Lake	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
Lake	Glendalough Upper Lake	Wicklow	Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	FOR
Lake	Glendalough Upper Lake	Wicklow	Update protocol on acid sensitive areas based on acid sensitive areas map and research	FOR
Lake	Glendalough Upper Lake	Wicklow	Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure
Lake	Glendalough Upper Lake	Wicklow	Forestry Act 1946 and 1988	Manure
Lake	Golden Falls Reservoir	Kildare	Collect abstraction rates and compensation flow releases on a continuous bases	ABS
Lake	Golden Falls Reservoir	Kildare	Further Research on Abstraction Pressure effects on lake ecology (national)	ABS
Lake	Golden Falls Reservoir	Kildare	Record daily abstraction rates	ABS
Lake	Golden Falls Reservoir	Kildare	Record daily water level	ABS
Lake	Golden Falls Reservoir	Kildare	Develop riparian buffers	AGR
Lake	Golden Falls Reservoir	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
Lake	Golden Falls Reservoir	Kildare	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
Lake	Golden Falls Reservoir	Kildare	Planning Development Acts 2000 - 2006	CROSS
Lake	Golden Falls Reservoir	Kildare	Further investigation/monitoring required	DATA+
Lake	Golden Falls Reservoir	Kildare	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Lake	Golden Falls Reservoir	Kildare	DSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
Lake	Leixlip Liffey Reservoir	Kildare	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Leixlip Liffey Reservoir	Kildare	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Leixlip Liffey Reservoir	Kildare	Further investigation/monitoring required	DATA+
Lake	Leixlip Liffey Reservoir	Kildare	Survey Banks/Coast	DATA+
Lake	Leixlip Liffey Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Leixlip Liffey Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Leixlip Liffey Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Leixlip Liffey Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Leixlip Liffey Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Leixlip Liffey Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Leixlip Liffey Reservoir	Kildare	Develop guidance on suites of measures for different habitats	HS
Lake	Leixlip Liffey Reservoir	Kildare	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Leixlip Liffey Reservoir	Kildare	Water Services Act 2007	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Leixlip Liffey Reservoir	South Dublin	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Leixlip Liffey Reservoir	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	National Water Pricing Policy Framework (1998)	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	Record daily abstraction rates	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	Record daily water level	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	Water Supplies Act 1942	ABS
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Leixlip Liffey Reservoir	South Dublin	Further investigation/monitoring required	DATA+
Lake	Leixlip Liffey Reservoir	South Dublin	Survey Banks/Coast	DATA+
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Leixlip Liffey Reservoir	South Dublin	Develop guidance on suites of measures for different habitats	HS
Lake	Leixlip Liffey Reservoir	South Dublin	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Leixlip Liffey Reservoir	South Dublin	Water Services Act 2007	WWTP
Lake	Lene (Lough)	Westmeath	Bathing Water Quality Regulations (S.I. 79 of 2008)	CROSS
Lake	Lene (Lough)	Westmeath	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Lake	Lene (Lough)	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Lene (Lough)	Westmeath	National Water Pricing Policy Framework (1998)	ABS
Lake	Lene (Lough)	Westmeath	Record daily abstraction rates	ABS
Lake	Lene (Lough)	Westmeath	Record daily water level	ABS
Lake	Lene (Lough)	Westmeath	Further investigation/monitoring required	DATA+
Lake	Nadreegeal Loughs	Cavan	Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	ABS
Lake	Nadreegeal Loughs	Cavan	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Nadreegeal Loughs	Cavan	National Water Pricing Policy Framework (1998)	ABS
Lake	Nadreegeal Loughs	Cavan	Record daily abstraction rates	ABS
Lake	Nadreegeal Loughs	Cavan	Record daily water level	ABS
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009):Conduct Farm Surveys	AGR

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Nadreegeal Loughs	Cavan	Further investigation/monitoring required	DATA+
Lake	Nadreegeal Loughs	Cavan	Survey Banks/Coast	DATA+
Lake	Nadreegeal Loughs	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Nadreegeal Loughs	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Nadreegeal Loughs	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Nadreegeal Loughs	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Nadreegeal Loughs	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Nadreegeal Loughs	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Nadreegeal Loughs	Cavan	Develop guidance on suites of measures for different habitats	HS
Lake	Nadreegeal Loughs	Cavan	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure
Lake	Nadreegeal Loughs	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Nahanagan (Lough)	Wicklow	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Nahanagan (Lough)	Wicklow	Survey Banks/Coast	DATA+
Lake	Nahanagan (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Nahanagan (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Nahanagan (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Nahanagan (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Nahanagan (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Nahanagan (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Ouler (Lough)	Wicklow	Further investigation/monitoring required	DATA+
Lake	Pollaphuca Reservoir	Kildare	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Pollaphuca Reservoir	Kildare	Survey Banks/Coast	DATA+

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Pollaphuca Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Pollaphuca Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Pollaphuca Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Pollaphuca Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Pollaphuca Reservoir	Kildare	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Pollaphuca Reservoir	Kildare	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Pollaphuca Reservoir	Kildare	Develop guidance on suites of measures for different habitats	HS
Lake	Pollaphuca Reservoir	Kildare	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Pollaphuca Reservoir	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Pollaphuca Reservoir	Kildare	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Lake	Pollaphuca Reservoir	Wicklow	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Pollaphuca Reservoir	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Pollaphuca Reservoir	Wicklow	Record daily abstraction rates	ABS
Lake	Pollaphuca Reservoir	Wicklow	Record daily water level	ABS
Lake	Pollaphuca Reservoir	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Lake	Pollaphuca Reservoir	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Pollaphuca Reservoir	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Pollaphuca Reservoir	Wicklow	Further investigation/monitoring required	DATA+
Lake	Pollaphuca Reservoir	Wicklow	Water Quality Dangerous Substances Regulations, 2001	DS
Lake	Pollaphuca Reservoir	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Pollaphuca Reservoir	Wicklow	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR
Lake	Pollaphuca Reservoir	Wicklow	Develop guidance on suites of measures for different habitats	HS

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Pollaphuca Reservoir	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Pollaphuca Reservoir	Wicklow	EPA Waste (Licensing) Regulations, 2004	IPPC
Lake	Pollaphuca Reservoir	Wicklow	Forestry Act 1946 and 1988	Manure
Lake	Pollaphuca Reservoir	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Pollaphuca Reservoir	Wicklow	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
Lake	Pollaphuca Reservoir	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Lake	Pollaphuca Reservoir	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 1 mg/l or ≥ 80% TN reduction for p.e's >100,000 discharging to sensitive waters (unless no eutrophication potential)	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 2 mg/l or ≥ 80% TP reduction for p.e's >10,000 discharging to sensitive waters (unless no eutrophication potential)	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e.'s >10,000 discharging to coastal waters	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Lake	Pollaphuca Reservoir	Wicklow	Water Services Act 2007	WWTP
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Ramor (Lough)	Cavan	Further investigation/monitoring required	DATA+
Lake	Ramor (Lough)	Cavan	Water Quality Dangerous Substances Regulations, 2001	DS
Lake	Ramor (Lough)	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Ramor (Lough)	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Ramor (Lough)	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Ramor (Lough)	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Ramor (Lough)	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Ramor (Lough)	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Ramor (Lough)	Cavan	Develop guidance on suites of measures for different habitats	HS
Lake	Ramor (Lough)	Cavan	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Ramor (Lough)	Cavan	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Ramor (Lough)	Cavan	EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	IPPC
Lake	Ramor (Lough)	Cavan	EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	IPPC
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure
Lake	Ramor (Lough)	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Ramor (Lough)	Cavan	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Lake	Ramor (Lough)	Cavan	Develop septic system management programme	Septic
Lake	Ramor (Lough)	Cavan	Enforce Regulations on Septic Systems	Septic
Lake	Ramor (Lough)	Cavan	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Lake	Ramor (Lough)	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Lake	Ramor (Lough)	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Lake	Ramor (Lough)	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 1 mg/l or ≥ 80% TN reduction for p.e's >100,000 discharging to sensitive waters (unless no eutrophication potential)	WWTP
Lake	Ramor (Lough)	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 2 mg/l or ≥ 80% TP reduction for p.e's >10,000 discharging to sensitive waters (unless no eutrophication potential)	WWTP
Lake	Ramor (Lough)	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Lake	Ramor (Lough)	Cavan	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Lake	Ramor (Lough)	Cavan	Water Services Act 2007	WWTP
Lake	Redbog	Kildare	Further investigation/monitoring required	DATA+
Lake	Tay (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Tay (Lough)	Wicklow	Survey Banks/Coast	DATA+
Lake	Turlough Hill	Wicklow	Further investigation/monitoring required	DATA+
Lake	Tay (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Tay (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Tay (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Tay (Lough)	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Tay (Lough)	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Tay (Lough)	Wicklow	EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	FOR
Lake	Tay (Lough)	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
Lake	Tay (Lough)	Wicklow	Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	FOR
Lake	Tay (Lough)	Wicklow	Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Tay (Lough)	Wicklow	Forestry Act 1946 and 1988	Manure
Lake	Upper Lough Skeagh	Cavan	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Upper Lough Skeagh	Cavan	National Water Pricing Policy Framework (1998)	ABS
Lake	Upper Lough Skeagh	Cavan	Record daily abstraction rates	ABS
Lake	Upper Lough Skeagh	Cavan	Record daily water level	ABS
Lake	Upper Lough Skeagh	Cavan	Water Supplies Act 1942	ABS
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
Lake	Upper Lough Skeagh	Cavan	Further investigation/monitoring required	DATA+
Lake	Upper Lough Skeagh	Cavan	Survey Banks/Coast	DATA+
Lake	Upper Lough Skeagh	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Upper Lough Skeagh	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Upper Lough Skeagh	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Upper Lough Skeagh	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Upper Lough Skeagh	Cavan	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Upper Lough Skeagh	Cavan	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Upper Lough Skeagh	Cavan	Develop guidance on suites of measures for different habitats	HS
Lake	Upper Lough Skeagh	Cavan	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure
Lake	Upper Lough Skeagh	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
Lake	Upper Lough Skeagh	Cavan	Develop septic system management programme	Septic
Lake	Upper Lough Skeagh	Cavan	Enforce Regulations on Septic Systems	Septic
Lake	Upper Lough Skeagh	Cavan	EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Septic
Lake	Vartry Reservoir Lower	Wicklow	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Vartry Reservoir Lower	Wicklow	Further Research on Abstraction Pressure effects on lake ecology (national)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
Lake	Vartry Reservoir Lower	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Vartry Reservoir Lower	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Vartry Reservoir Lower	Wicklow	Record daily abstraction rates	ABS
Lake	Vartry Reservoir Lower	Wicklow	Record daily water level	ABS
Lake	Vartry Reservoir Lower	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Vartry Reservoir Lower	Wicklow	Planning Development Acts 2000 - 2006	CROSS
Lake	Vartry Reservoir Lower	Wicklow	Survey Banks/Coast	DATA+
Lake	Vartry Reservoir Lower	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Lake	Vartry Reservoir Lower	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Lake	Vartry Reservoir Lower	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Lake	Vartry Reservoir Lower	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Lake	Vartry Reservoir Lower	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Lake	Vartry Reservoir Lower	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Lake	Vartry Reservoir Lower	Wicklow	Develop guidance on suites of measures for different habitats	HS
Lake	Vartry Reservoir Lower	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Vartry Reservoir Lower	Wicklow	Water Services Act 2007	WWTP
Lake	Vartry Reservoir Upper	Wicklow	Further Research on Abstraction Pressure effects on lake ecology (national)	ABS
Lake	Vartry Reservoir Upper	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
Lake	Vartry Reservoir Upper	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
Lake	Vartry Reservoir Upper	Wicklow	Record daily abstraction rates	ABS
Lake	Vartry Reservoir Upper	Wicklow	Record daily water level	ABS
Lake	Vartry Reservoir Upper	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
Lake	Vartry Reservoir Upper	Wicklow	Planning Development Acts 2000 - 2006	CROSS
Lake	Vartry Reservoir Upper	Wicklow	Survey Banks/Coast	DATA+
Lake	Vartry Reservoir Upper	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO
Lake	Vartry Reservoir Upper	Wicklow	EC (Natural Habitats) Regulations 1997- 2005	ECO
Lake	Vartry Reservoir Upper	Wicklow	Develop guidance on suites of measures for different habitats	HS
Lake	Vartry Reservoir Upper	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Lake	Vartry Reservoir Upper	Wicklow	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Lake	Vartry Reservoir Upper	Wicklow	Water Services Act 2007	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Athboy	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Athboy	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Athboy	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Athboy	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Athboy	Meath	Water Supplies Act 1942	ABS
River	Athboy	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Athboy	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Athboy	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Athboy	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Athboy	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Athboy	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Athboy	Meath	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Athboy	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Athboy	Meath	Further investigation/monitoring required	DATA+
River	Athboy	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Athboy	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Athboy	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Athboy	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Athboy	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Athboy	Meath	Enforce Regulations on Septic Systems	Septic
River	Athboy	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Athboy	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Athboy	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Athboy	Meath	Tertiary Treatment	WWTP
River	Athboy	Meath	Upgrade WWTW <2000 PE	WWTP
River	Athboy	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Athboy	Westmeath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Athboy	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Athboy	Westmeath	National Water Pricing Policy Framework (1998)	ABS
River	Athboy	Westmeath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Athboy	Westmeath	Water Supplies Act 1942	ABS
River	Athboy	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Athboy	Westmeath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Athboy	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Athboy	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Athboy	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Athboy	Westmeath	Implement Community Digestors for Alternative Energy	WWTP
River	Athboy	Westmeath	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Athboy	Westmeath	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Avoca	Wexford	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Avoca	Wexford	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Avoca	Wexford	National Water Pricing Policy Framework (1998)	ABS
River	Avoca	Wexford	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Avoca	Wexford	Water Supplies Act 1942	ABS
River	Avoca	Wexford	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Avoca	Wexford	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Avoca	Wexford	Planning Development Acts 2000 - 2006	CROSS
River	Avoca	Wexford	Further investigation/monitoring required	DATA+
River	Avoca	Wexford	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
River	Avoca	Wexford	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
River	Avoca	Wexford	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
River	Avoca	Wexford	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO
River	Avoca	Wexford	EC (Natural Habitats) Regulations 1997- 2005	ECO
River	Avoca	Wexford	Fisheries Act 1959 - 1981	ECO
River	Avoca	Wexford	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Avoca	Wexford	Forestry Act 1946 and 1988	Manure
River	Avoca	Wexford	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Avoca	Wexford	Water Services Act 2007	WWTP
River	Avoca	Wicklow	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Avoca	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Avoca	Wicklow	Develop and employ demand reduction measures	ABS
River	Avoca	Wicklow	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Avoca	Wicklow	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Avoca	Wicklow	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Avoca	Wicklow	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Avoca	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Avoca	Wicklow	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Avoca	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Avoca	Wicklow	Record daily abstraction rates	ABS
River	Avoca	Wicklow	Water Supplies Act 1942	ABS
River	Avoca	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Avoca	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Avoca	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Avoca	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Avoca	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Avoca	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Avoca	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Avoca	Wicklow	Further investigation/monitoring required	DATA+
River	Avoca	Wicklow	Survey Banks/Coast	DATA+
River	Avoca	Wicklow	Mine discharge to be suitably treated	DS
River	Avoca	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
River	Avoca	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Avoca	Wicklow	Facilitate Fish Migration	MORP
River	Avoca	Wicklow	Introduce Soft Edges to Inferior Habitats	MORP
River	Avoca	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 - discharges to water bodies)	S4
River	Avoca	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Avoca	Wicklow	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Avoca	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
River	Avoca	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Avoca	Wicklow	Upgrade WWTW <2000 PE	WWTP
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Ballyboghil	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Ballyboghil	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Ballyboghil	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Ballyboghil	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Ballyboghil	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Ballyboghil	Fingal	Water Supplies Act 1942	ABS
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Ballyboghil	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Ballyboghil	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Ballyboghil	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Ballyboghil	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Ballyboghil	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Ballyboghil	Fingal	Develop septic system management programme	Septic
River	Ballyboghil	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Ballyboghil	Fingal	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chem
River	Baltray	Louth	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Baltray	Louth	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Baltray	Louth	National Water Pricing Policy Framework (1998)	ABS
River	Baltray	Louth	Quality of Surface Water Intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Baltray	Louth	Water Supplies Act 1942	ABS
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Discontinue use of soiled water for application to or irrigation of land in certain conditions	AGR
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Prohibit application of fertiliser during specific periods	Chem
River	Baltray	Louth	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Baltray	Louth	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Baltray	Louth	Further investigation/monitoring required	DATA+
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Analyse sludge (e.g., heavy metal, pH, etc.)	Manure
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Consider impact of sludge on plants, soil, surface water and groundwater quality	Manure
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Local Authorities will maintain a sludge register	Manure
River	Baltray	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict land where sludge can be used	Manure
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict the amount of sludge applied to land to 2 tonnes of dry matter per hectare per year	Manure
River	Baltray	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Supervise the supply and use of sludge in agriculture	Manure
River	Baltray	Louth	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Baltray	Louth	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Baltray	Louth	Carry out septic system inspections and upgrades	Septic
River	Baltray	Louth	Implement Community Digestors for Alternative Energy	WWTP
River	Balytunny	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Balytunny	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Balytunny	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Balytunny	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Balytunny	Wicklow	Water Supplies Act 1942	ABS
River	Balytunny	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Balytunny	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Balytunny	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Balytunny	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Balytunny	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Balytunny	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Balytunny	Wicklow	Further investigation/monitoring required	DATA+
River	Balytunny	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Balytunny	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Balytunny	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Balytunny	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Blackwater North	Cavan	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Blackwater North	Cavan	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Blackwater North	Cavan	Develop and employ demand reduction measures	ABS
River	Blackwater North	Cavan	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Blackwater North	Cavan	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Blackwater North	Cavan	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Blackwater North	Cavan	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Blackwater North	Cavan	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Blackwater North	Cavan	National Water Pricing Policy Framework (1998)	ABS
River	Blackwater North	Cavan	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Blackwater North	Cavan	Record daily abstraction rates	ABS
River	Blackwater North	Cavan	Water Supplies Act 1942	ABS
River	Blackwater North	Cavan	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Blackwater North	Cavan	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Blackwater North	Cavan	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Blackwater North	Cavan	Further investigation/monitoring required	DATA+
River	Blackwater North	Cavan	Survey Banks/Coast	DATA+
River	Blackwater North	Cavan	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
River	Blackwater North	Cavan	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Blackwater North	Cavan	Enforce Regulations on Septic Systems	Septic
River	Blackwater North	Cavan	Implement Community Digestors for Alternative Energy	WWTP
River	Blackwater North	Cavan	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Blackwater North	Cavan	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Blackwater North	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Blackwater North	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Blackwater North	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Blackwater North	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Blackwater North	Meath	Water Supplies Act 1942	ABS
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Blackwater North	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Blackwater North	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Blackwater North	Meath	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Blackwater North	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Blackwater North	Meath	Implement Upstream Programmes of Measures	CROSS
River	Blackwater North	Meath	Further investigation/monitoring required	DATA+
River	Blackwater North	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Blackwater North	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Blackwater North	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Blackwater North	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Blackwater North	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Blackwater North	Meath	Enforce Regulations on Septic Systems	Septic
River	Blackwater North	Meath	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Blackwater North	Meath	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Blackwater North	Meath	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Blackwater North	Meath	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Blackwater North	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Blackwater North	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Blackwater North	Meath	Tertiary Treatment	WWTP
River	Blackwater North	Meath	Upgrade WWTW <2000 PE	WWTP
River	Blackwater North	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Blackwater South	Kildare	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Blackwater South	Kildare	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Blackwater South	Kildare	National Water Pricing Policy Framework (1998)	ABS
River	Blackwater South	Kildare	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Blackwater South	Kildare	Water Supplies Act 1942	ABS
River	Blackwater South	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Blackwater South	Kildare	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Blackwater South	Kildare	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Blackwater South	Kildare	Implement Upstream Programmes of Measures	CROSS
River	Blackwater South	Kildare	Planning Development Acts 2000 - 2006	CROSS
River	Blackwater South	Kildare	Further investigation/monitoring required	DATA+
River	Blackwater South	Kildare	Evaluate impact of waters discharging from bog and peat lands	Manure
River	Blackwater South	Kildare	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
River	Blackwater South	Kildare	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Blackwater South	Kildare	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Blackwater South	Kildare	Enforce Regulations on Septic Systems	Septic
River	Blackwater South	Kildare	Increase public awareness	Septic
River	Blackwater South	Kildare	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Blackwater South	Kildare	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Blackwater South	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Blackwater South	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Blackwater South	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Blackwater South	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Blackwater South	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Blackwater South	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Blackwater South	Meath	Enforce Regulations on Septic Systems	Septic
River	Blackwater South	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Blackwater South	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Blackwater South	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Blackwater South	Meath	Further investigation/monitoring required	DATA+
River	Blackwater South	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Blackwater South	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Blackwater South	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Blackwater South	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Blackwater South	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Blackwater South	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Blackwater South	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Blackwater South	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Blackwater South	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Blackwater South	Meath	Tertiary Treatment	WWTP
River	Blackwater South	Meath	Water Supplies Act 1942	ABS
River	Boyne Lower	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Boyne Lower	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Boyne Lower	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Boyne Lower	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Boyne Lower	Meath	Water Supplies Act 1942	ABS
River	Boyne Lower	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Boyne Lower	Meath	Develop riparian buffers	AGR
River	Boyne Lower	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Boyne Lower	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Boyne Lower	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Boyne Lower	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Boyne Lower	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Boyne Lower	Meath	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Boyne Lower	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Boyne Lower	Meath	Further investigation/monitoring required	DATA+
River	Boyne Lower	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Boyne Lower	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Boyne Lower	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Boyne Lower	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Boyne Lower	Meath	Enforce Regulations on Septic Systems	Septic
River	Boyne Lower	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Boyne Lower	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
River	Boyne Lower	Meath	OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
River	Boyne Lower	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Boyne Lower	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Boyne Lower	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
River	Boyne Lower	Meath	Upgrade WWTW <2000 PE	WWTP
River	Boyne Lower	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Boyne Upper	Kildare	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Boyne Upper	Kildare	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Boyne Upper	Kildare	National Water Pricing Policy Framework (1998)	ABS
River	Boyne Upper	Kildare	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Boyne Upper	Kildare	Water Supplies Act 1942	ABS
River	Boyne Upper	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Boyne Upper	Kildare	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Boyne Upper	Kildare	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Boyne Upper	Kildare	Implement Upstream Programmes of Measures	CROSS
River	Boyne Upper	Kildare	Planning Development Acts 2000 - 2006	CROSS
River	Boyne Upper	Kildare	Further investigation/monitoring required	DATA+
River	Boyne Upper	Kildare	Mitigate impact of quarry activities	DS
River	Boyne Upper	Kildare	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Boyne Upper	Kildare	OPW - Environmental River Enhancement Programme 2008 -2012	MORP
River	Boyne Upper	Kildare	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Boyne Upper	Kildare	Enforce Regulations on Septic Systems	Septic
River	Boyne Upper	Kildare	Increase public awareness	Septic
River	Boyne Upper	Kildare	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Boyne Upper	Kildare	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Boyne Upper	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Boyne Upper	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Boyne Upper	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Boyne Upper	Meath	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Boyne Upper	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Boyne Upper	Meath	Water Supplies Act 1942	ABS
River	Boyne Upper	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Boyne Upper	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Boyne Upper	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Boyne Upper	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Boyne Upper	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Boyne Upper	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Boyne Upper	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Boyne Upper	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Boyne Upper	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Boyne Upper	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Boyne Upper	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Boyne Upper	Meath	Enforce Regulations on Septic Systems	Septic
River	Boyne Upper	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Boyne Upper	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Boyne Upper	Offaly	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Boyne Upper	Offaly	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Boyne Upper	Offaly	National Water Pricing Policy Framework (1998)	ABS
River	Boyne Upper	Offaly	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Boyne Upper	Offaly	Water Supplies Act 1942	ABS
River	Boyne Upper	Offaly	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Boyne Upper	Offaly	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Boyne Upper	Offaly	Further investigation/monitoring required	DATA+
River	Boyne Upper	Offaly	OPW - Environmental River Enhancement Programme 2008 -2012	MORP
River	Boyne Upper	Offaly	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Boyne Upper	Offaly	Implement Community Digestors for Alternative Energy	WWTP
River	Boyne Upper	Offaly	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Boyne Upper	Offaly	Water Services Act 2007	WWTP
River	Boyne Upper	Westmeath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Boyne Upper	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Boyne Upper	Westmeath	National Water Pricing Policy Framework (1998)	ABS
River	Boyne Upper	Westmeath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Boyne Upper	Westmeath	Water Supplies Act 1942	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Boyne Upper	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Boyne Upper	Westmeath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Boyne Upper	Westmeath	Planning and Development Regulations 2001 - 2007: Include an Environmental Report with Development Plans	CROSS
River	Boyne Upper	Westmeath	Further investigation/monitoring required	DATA+
River	Boyne Upper	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Boyne Upper	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Boyne Upper	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Boyne Upper	Westmeath	Implement Community Digestors for Alternative Energy	WWTP
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Broadmeadow	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Broadmeadow	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Broadmeadow	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Broadmeadow	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Broadmeadow	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Broadmeadow	Fingal	Water Supplies Act 1942	ABS
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Broadmeadow	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Broadmeadow	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Broadmeadow	Fingal	Further investigation/monitoring required	DATA+
River	Broadmeadow	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Broadmeadow	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Broadmeadow	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Broadmeadow	Fingal	Develop septic system management programme	Septic
River	Broadmeadow	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Broadmeadow	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Broadmeadow	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Broadmeadow	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Broadmeadow	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Broadmeadow	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Broadmeadow	Meath	Water Supplies Act 1942	ABS
River	Broadmeadow	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Broadmeadow	Meath	Develop riparian buffers	AGR
River	Broadmeadow	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Broadmeadow	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Broadmeadow	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Broadmeadow	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Broadmeadow	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Broadmeadow	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Broadmeadow	Meath	Further investigation/monitoring required	DATA+
River	Broadmeadow	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Broadmeadow	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Broadmeadow	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Broadmeadow	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Broadmeadow	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Broadmeadow	Meath	Enforce Regulations on Septic Systems	Septic
River	Broadmeadow	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Broadmeadow	Meath	OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
River	Broadmeadow	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Broadmeadow	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Cammock	Dublin City	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Cammock	Dublin City	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Cammock	Dublin City	Implement Measures in other Pressure Categories	CROSS
River	Cammock	Dublin City	Implement Upstream Programmes of Measures	CROSS
River	Cammock	Dublin City	Planning and Development Regulations 2001 - 2007	CROSS
River	Cammock	Dublin City	Further investigation/monitoring required	DATA+
River	Cammock	Dublin City	Survey Banks/Coast	DATA+
River	Cammock	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Cammock	Dublin City	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
River	Cammock	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Cammock	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Cammock	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Cammock	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Cammock	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
River	Cammock	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Cammock	Dublin City	Collection system - Network management & operations programme	WWTP
River	Cammock	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
River	Cammock	Dublin City	Implement Fats, Oils and Grease Programme	WWTP
River	Cammock	Dublin City	Investigate and eliminate misconnections	WWTP
River	Cammock	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Cammock	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Cammock	South Dublin	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006): After an accident, operator should take all necessary measures to clear up any pollution caused.	DS
River	Cammock	South Dublin	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Cammock	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Cammock	South Dublin	National Water Pricing Policy Framework (1998)	ABS
River	Cammock	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Cammock	South Dublin	Water Supplies Act 1942	ABS
River	Cammock	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Cammock	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Cammock	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Cammock	South Dublin	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Cammock	South Dublin	Further investigation/monitoring required	DATA+
River	Cammock	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
River	Cammock	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	IPPC
River	Cammock	South Dublin	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Cammock	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Cammock	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Cammock	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Cammock	South Dublin	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Cammock	South Dublin	Collection System - Upgrades and rehabilitation	WWTP
River	Cammock	South Dublin	Investigate and eliminate misconnections	WWTP
River	Dargle	DLRCC	Address diffuse silt pollution from green field site development	MORP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Dargle	DLRCC	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Dargle	DLRCC	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Dargle	DLRCC	National Water Pricing Policy Framework (1998)	ABS
River	Dargle	DLRCC	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Dargle	DLRCC	Water Supplies Act 1942	ABS
River	Dargle	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Dargle	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Dargle	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Dargle	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Dargle	DLRCC	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Dargle	DLRCC	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
River	Dargle	DLRCC	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Dargle	DLRCC	Planning and Development Regulations 2001 - 2007	CROSS
River	Dargle	DLRCC	River Polishing - Reed Bed	CROSS
River	Dargle	DLRCC	Further investigation/monitoring required	DATA+
River	Dargle	DLRCC	Survey Banks/Coast	DATA+
River	Dargle	DLRCC	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
River	Dargle	DLRCC	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
River	Dargle	DLRCC	Mitigate impact of quarry activities	DS
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Assess effects of a proposed development on a protected site before granting planning permission	ECO
River	Dargle	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Determine priority species (flora and fauna) for protection	ECO
River	Dargle	DLRCC	Fisheries Act 1959 - 1981	ECO
River	Dargle	DLRCC	Fresh Water Pearl Mussel Regulations	ECO
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
River	Dargle	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
River	Dargle	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Reintroduce native species; license introduction of non native species	ECO
River	Dargle	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
River	Dargle	DLRCC	Implement Forestry and Water Quality Guidelines	FOR
River	Dargle	DLRCC	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Dargle	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Dargle	DLRCC	Facilitate Fish Migration	MORP
River	Dargle	DLRCC	Freshwater Pearl Mussel Management Plans	MORP
River	Dargle	DLRCC	Introduce Soft Edges to Inferior Habitats	MORP
River	Dargle	DLRCC	OPW - Environmental River Enhancement Programme 2008 -2012	MORP
River	Dargle	DLRCC	Preserve and/or restore banks	MORP
River	Dargle	DLRCC	Restoration works on intensive land use for Freshwater Morphology	MORP
River	Dargle	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Dargle	DLRCC	Carry out septic system inspections and upgrades	Septic
River	Dargle	DLRCC	Enforce Regulations on Septic Systems	Septic
River	Dargle	DLRCC	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Dargle	DLRCC	Collection System - Upgrades and rehabilitation	WWTP
River	Dargle	DLRCC	CSOs to comply with GDSDS recommendations	WWTP
River	Dargle	DLRCC	Investigate and eliminate misconnections	WWTP
River	Dargle	DLRCC	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
River	Dargle	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Dargle	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Dargle	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Dargle	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Dargle	Wicklow	Water Supplies Act 1942	ABS
River	Dargle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Dargle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Dargle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Dargle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Dargle	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Dargle	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Dargle	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Dargle	Wicklow	Further investigation/monitoring required	DATA+
River	Dargle	Wicklow	Mitigate impact of quarry activities	DS
River	Dargle	Wicklow	Forestry Act 1946 and 1988	Manure
River	Dargle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Dargle	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Dargle	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Dargle	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Dargle	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
River	Dargle	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Dargle	Wicklow	Investigate and eliminate misconnections	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Dargle	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Deel	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Deel	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Deel	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Deel	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Deel	Meath	Water Supplies Act 1942	ABS
River	Deel	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Deel	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Deel	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Deel	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Deel	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Deel	Meath	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Deel	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Deel	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Deel	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Deel	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Deel	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Deel	Meath	Enforce Regulations on Septic Systems	Septic
River	Deel	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Deel	Westmeath	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Deel	Westmeath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Deel	Westmeath	Develop and employ demand reduction measures	ABS
River	Deel	Westmeath	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Deel	Westmeath	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Deel	Westmeath	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Deel	Westmeath	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Deel	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Deel	Westmeath	National Water Pricing Policy Framework (1998)	ABS
River	Deel	Westmeath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Deel	Westmeath	Record daily abstraction rates	ABS
River	Deel	Westmeath	Water Supplies Act 1942	ABS
River	Deel	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Deel	Westmeath	Bathing Water Quality Regulations (S.I. 79 of 2008): Classify Bathing Waters	CROSS
River	Deel	Westmeath	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Deel	Westmeath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Deel	Westmeath	Bathing Water Quality Regulations (S.I. 79 of 2008): Facilitate public participation and provide public information	CROSS
River	Deel	Westmeath	Bathing Water Quality Regulations (S.I. 79 of 2008): Test bathing water compliance	CROSS
River	Deel	Westmeath	Further investigation/monitoring required	DATA+
River	Deel	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Deel	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Deel	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Deel	Westmeath	Implement Community Digestors for Alternative Energy	WWTP
River	Deel	Westmeath	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): License all waste water discharges of greater than 500 PE	WWTP
River	Deel	Westmeath	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Delvin	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Delvin	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Delvin	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Delvin	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Delvin	Fingal	Water Supplies Act 1942	ABS
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Delvin	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Delvin	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Delvin	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Delvin	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Delvin	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Delvin	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Delvin	Fingal	Implement Community Digestors for Alternative Energy	WWTP
River	Delvin	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Delvin	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Delvin	Fingal	Upgrade WWTW <2000 PE	WWTP
River	Delvin	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Delvin	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Delvin	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Delvin	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Delvin	Meath	Water Supplies Act 1942	ABS
River	Delvin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Delvin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Delvin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Delvin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Delvin	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Delvin	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Delvin	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Delvin	Meath	Further investigation/monitoring required	DATA+
River	Delvin	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Delvin	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Delvin	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Delvin	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Delvin	Meath	Enforce Regulations on Septic Systems	Septic
River	Delvin	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Delvin	Meath	Tertiary Treatment	WWTP
River	Delvin	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Devlin (Mattock)	Louth	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Devlin (Mattock)	Louth	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Devlin (Mattock)	Louth	National Water Pricing Policy Framework (1998)	ABS
River	Devlin (Mattock)	Louth	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Devlin (Mattock)	Louth	Record daily abstraction rates	ABS
River	Devlin (Mattock)	Louth	Record daily water level	ABS
River	Devlin (Mattock)	Louth	Water Supplies Act 1942	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Discontinue use of soiled water for application to or irrigation of land in certain conditions	AGR
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	AGR
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chem
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Prohibit application of fertiliser during specific periods	Chem
River	Devlin (Mattock)	Louth	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Devlin (Mattock)	Louth	Further investigation/monitoring required	DATA+
River	Devlin (Mattock)	Louth	Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	DS
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Analyse sludge (e.g., heavy metal, pH, etc.)	Manure
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Consider impact of sludge on plants, soil, surface water and groundwater quality	Manure
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Local Authorities will maintain a sludge register	Manure
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure
River	Devlin (Mattock)	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict land where sludge can be used	Manure
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict the amount of sludge applied to land to 2 tonnes of dry matter per hectare per year	Manure
River	Devlin (Mattock)	Louth	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Supervise the supply and use of sludge in agriculture	Manure
River	Devlin (Mattock)	Louth	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Devlin (Mattock)	Louth	Carry out septic system inspections and upgrades	Septic
River	Devlin (Mattock)	Louth	Implement Community Digestors for Alternative Energy	WWTP
River	Devlin (Mattock)	Louth	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Devlin (Mattock)	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Devlin (Mattock)	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Devlin (Mattock)	Meath	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Devlin (Mattock)	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Devlin (Mattock)	Meath	Water Supplies Act 1942	ABS
River	Devlin (Mattock)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Devlin (Mattock)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Devlin (Mattock)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Devlin (Mattock)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Devlin (Mattock)	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Devlin (Mattock)	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Devlin (Mattock)	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Devlin (Mattock)	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Devlin (Mattock)	Meath	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Devlin (Mattock)	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Devlin (Mattock)	Meath	Enforce Regulations on Septic Systems	Septic
River	Devlin (Mattock)	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Dodder	DLRCC	Address diffuse silt pollution from green field site development	MORP
River	Dodder	DLRCC	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Dodder	DLRCC	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Dodder	DLRCC	National Water Pricing Policy Framework (1998)	ABS
River	Dodder	DLRCC	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Dodder	DLRCC	Water Supplies Act 1942	ABS
River	Dodder	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Dodder	DLRCC	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
River	Dodder	DLRCC	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Dodder	DLRCC	Planning and Development Regulations 2001 - 2007	CROSS
River	Dodder	DLRCC	River Polishing - Reed Bed	CROSS
River	Dodder	DLRCC	Survey Banks/Coast	DATA+
River	Dodder	DLRCC	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Assess effects of a proposed development on a protected site before granting planning permission	ECO
River	Dodder	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Determine priority species (flora and fauna) for protection	ECO
River	Dodder	DLRCC	Fresh Water Pearl Mussel Regulations	ECO
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Dodder	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
River	Dodder	DLRCC	Fisheries Act 1959 - 1981: Prohibit works in river channels during fisheries close season.	ECO
River	Dodder	DLRCC	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Reintroduce native species; license introduction of non native species	ECO
River	Dodder	DLRCC	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
River	Dodder	DLRCC	Develop guidance on suites of measures for different habitats	HS
River	Dodder	DLRCC	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
River	Dodder	DLRCC	NPWS to develop and maintain a Webserver based register of designated sites accessible to LA, State Agencies, Stakeholders	HS
River	Dodder	DLRCC	NPWS to develop Guidance documents for Article 6 Assessments	HS
River	Dodder	DLRCC	Facilitate Fish Migration	MORP
River	Dodder	DLRCC	Introduce Soft Edges to Inferior Habitats	MORP
River	Dodder	DLRCC	Morphology - Physical Modifications Campaign	MORP
River	Dodder	DLRCC	Preserve and/or restore banks	MORP
River	Dodder	DLRCC	CSOs to comply with GDSDS recommendations	WWTP
River	Dodder	DLRCC	Implement Fats, Oils and Grease Programme	WWTP
River	Dodder	DLRCC	Investigate and eliminate misconnections	WWTP
River	Dodder	Dublin City	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Dodder	Dublin City	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Dodder	Dublin City	Implement Measures in other Pressure Categories	CROSS
River	Dodder	Dublin City	Implement Upstream Programmes of Measures	CROSS
River	Dodder	Dublin City	Planning and Development Regulations 2001 - 2007	CROSS
River	Dodder	Dublin City	Further investigation/monitoring required	DATA+
River	Dodder	Dublin City	Survey Banks/Coast	DATA+
River	Dodder	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Dodder	Dublin City	Introduce Soft Edges to Inferior Habitats	MORP
River	Dodder	Dublin City	Preserve and/or restore banks	MORP
River	Dodder	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Dodder	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Dodder	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Dodder	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
River	Dodder	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Dodder	Dublin City	Collection system - Network management & operations programme	WWTP
River	Dodder	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
River	Dodder	Dublin City	Implement Fats, Oils and Grease Programme	WWTP
River	Dodder	Dublin City	Investigate and eliminate misconnections	WWTP
River	Dodder	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Dodder	South Dublin	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Dodder	South Dublin	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Dodder	South Dublin	Develop and employ demand reduction measures	ABS
River	Dodder	South Dublin	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Dodder	South Dublin	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Dodder	South Dublin	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Dodder	South Dublin	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Dodder	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Dodder	South Dublin	National Water Pricing Policy Framework (1998)	ABS
River	Dodder	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Dodder	South Dublin	Record daily abstraction rates	ABS
River	Dodder	South Dublin	Water Supplies Act 1942	ABS
River	Dodder	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Dodder	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Dodder	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Dodder	South Dublin	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Dodder	South Dublin	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Dodder	South Dublin	Further investigation/monitoring required	DATA+
River	Dodder	South Dublin	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006): After an accident, operator should take all necessary measures to clear up any pollution caused.	DS
River	Dodder	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
River	Dodder	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	IPPC
River	Dodder	South Dublin	Facilitate Fish Migration	MORP
River	Dodder	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Dodder	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Dodder	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Dodder	South Dublin	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Dodder	South Dublin	Collection System - Upgrades and rehabilitation	WWTP
River	Dodder	South Dublin	Investigate and eliminate misconnections	WWTP
River	Dodder	Wicklow	Further investigation/monitoring required	DATA+
River	Dodder	Wicklow	Survey Banks/Coast	DATA+
River	Donabate	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Donabate	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Donabate	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Donabate	Fingal	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Donabate	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Donabate	Fingal	Water Supplies Act 1942	ABS
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Donabate	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Donabate	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Donabate	Fingal	Further investigation/monitoring required	DATA+
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Donabate	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Donabate	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Donabate	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Donabate	Fingal	Develop septic system management programme	Septic
River	Donabate	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Donabate	Fingal	Improve Removal of certain parameters at WWTP	WWTP
River	Donabate	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Kilmurry	Wexford	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Kilmurry	Wexford	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Kilmurry	Wexford	National Water Pricing Policy Framework (1998)	ABS
River	Kilmurry	Wexford	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Kilmurry	Wexford	Water Supplies Act 1942	ABS
River	Kilmurry	Wexford	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Kilmurry	Wexford	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Kilmurry	Wexford	Planning and Development Regulations 2001 - 2007	CROSS
River	Kilmurry	Wexford	Further investigation/monitoring required	DATA+
River	Kilmurry	Wexford	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
River	Kilmurry	Wexford	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
River	Kilmurry	Wexford	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
River	Kilmurry	Wexford	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Kilmurry	Wexford	EC (Natural Habitats) Regulations 1997- 2005	ECO
River	Kilmurry	Wexford	Fisheries Act 1959 - 1981	ECO
River	Kilmurry	Wexford	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Kilmurry	Wexford	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Kilmurry	Wexford	Water Services Act 2007	WWTP
River	Kilmurry	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Kilmurry	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Kilmurry	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Kilmurry	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Kilmurry	Wicklow	Water Supplies Act 1942	ABS
River	Kilmurry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Kilmurry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Kilmurry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Kilmurry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Kilmurry	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Kilmurry	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Kilmurry	Wicklow	Further investigation/monitoring required	DATA+
River	Kilmurry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Kilmurry	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Kilmurry	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Kilmurry	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Liffey	Dublin City	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Liffey	Dublin City	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Liffey	Dublin City	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Liffey	Dublin City	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Liffey	Dublin City	National Water Pricing Policy Framework (1998)	ABS
River	Liffey	Dublin City	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Liffey	Dublin City	Implement Measures in other Pressure Categories	CROSS
River	Liffey	Dublin City	Implement Upstream Programmes of Measures	CROSS
River	Liffey	Dublin City	Planning and Development Regulations 2001 - 2007	CROSS
River	Liffey	Dublin City	Further investigation/monitoring required	DATA+
River	Liffey	Dublin City	Survey Banks/Coast	DATA+
River	Liffey	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Liffey	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Liffey	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Liffey	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Liffey	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Liffey	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
River	Liffey	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Liffey	Dublin City	Collection system - Network management & operations programme	WWTP
River	Liffey	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
River	Liffey	Dublin City	Implement Fats, Oils and Grease Programme	WWTP
River	Liffey	Dublin City	Investigate and eliminate misconnections	WWTP
River	Liffey	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Liffey	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Liffey	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Liffey	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Liffey	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Liffey	Fingal	Water Supplies Act 1942	ABS
River	Liffey	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Liffey	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Liffey	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Liffey	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Liffey	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Liffey	Fingal	Further investigation/monitoring required	DATA+
River	Liffey	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Liffey	Fingal	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Liffey	Fingal	Develop septic system management programme	Septic
River	Liffey	Kildare	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Liffey	Kildare	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Liffey	Kildare	Develop and employ demand reduction measures	ABS
River	Liffey	Kildare	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Liffey	Kildare	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Liffey	Kildare	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Liffey	Kildare	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Liffey	Kildare	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Liffey	Kildare	National Water Pricing Policy Framework (1998)	ABS
River	Liffey	Kildare	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Liffey	Kildare	Record daily abstraction rates	ABS
River	Liffey	Kildare	Water Supplies Act 1942	ABS
River	Liffey	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Liffey	Kildare	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Liffey	Kildare	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Liffey	Kildare	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
River	Liffey	Kildare	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Liffey	Kildare	Implement Upstream Programmes of Measures	CROSS
River	Liffey	Kildare	Planning Development Acts 2000 - 2006	CROSS
River	Liffey	Kildare	Further investigation/monitoring required	DATA+
River	Liffey	Kildare	Mitigate impact of quarry activities	DS
River	Liffey	Kildare	Water Quality Dangerous Substances Regulations, 2001	DS
River	Liffey	Kildare	Develop guidance on suites of measures for different habitats	HS
River	Liffey	Kildare	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
River	Liffey	Kildare	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Liffey	Kildare	Enforce Regulations on Septic Systems	Septic
River	Liffey	Kildare	Increase public awareness	Septic
River	Liffey	Kildare	Implement Fats, Oils and Grease Programme	WWTP
River	Liffey	Kildare	Investigate and eliminate misconnections	WWTP
River	Liffey	Kildare	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Liffey	Kildare	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Liffey	South Dublin	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Liffey	South Dublin	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Liffey	South Dublin	National Water Pricing Policy Framework (1998)	ABS
River	Liffey	South Dublin	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Liffey	South Dublin	Water Supplies Act 1942	ABS
River	Liffey	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Liffey	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Liffey	South Dublin	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Liffey	South Dublin	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Liffey	South Dublin	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Liffey	South Dublin	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006): After an accident, operator should take all necessary measures to clear up any pollution caused.	DS
River	Liffey	South Dublin	Further investigation/monitoring required	DATA+
River	Liffey	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	IPPC
River	Liffey	South Dublin	EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	IPPC
River	Liffey	South Dublin	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Liffey	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Liffey	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Liffey	South Dublin	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Liffey	South Dublin	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Liffey	South Dublin	Collection System - Upgrades and rehabilitation	WWTP
River	Liffey	South Dublin	Investigate and eliminate misconnections	WWTP
River	Liffey	Wicklow	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Liffey	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Liffey	Wicklow	Develop and employ demand reduction measures	ABS
River	Liffey	Wicklow	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Liffey	Wicklow	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Liffey	Wicklow	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Liffey	Wicklow	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Liffey	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Liffey	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Liffey	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Liffey	Wicklow	Record daily abstraction rates	ABS
River	Liffey	Wicklow	Water Supplies Act 1942	ABS
River	Liffey	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Liffey	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Liffey	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Liffey	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Liffey	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Liffey	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Liffey	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Liffey	Wicklow	Further investigation/monitoring required	DATA+
River	Liffey	Wicklow	Mitigate impact of quarry activities	DS
River	Liffey	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
River	Liffey	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Liffey	Wicklow	Facilitate Fish Migration	MORP
River	Liffey	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Liffey	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Liffey	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Liffey	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Lusk	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Lusk	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Lusk	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Lusk	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Lusk	Fingal	Water Supplies Act 1942	ABS
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Lusk	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Lusk	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Lusk	Fingal	Further investigation/monitoring required	DATA+
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Lusk	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Lusk	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Lusk	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Lusk	Fingal	Develop septic system management programme	Septic
River	Lusk	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Lusk	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Lusk	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Mosney	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Mosney	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Mosney	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Mosney	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Mosney	Meath	Water Supplies Act 1942	ABS
River	Mosney	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Mosney	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Mosney	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Mosney	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Mosney	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Mosney	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Mosney	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Mosney	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Mosney	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Mosney	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Mosney	Meath	Enforce Regulations on Septic Systems	Septic
River	Mosney	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Nanny	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Nanny	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Nanny	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Nanny	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Nanny	Fingal	Water Supplies Act 1942	ABS
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Nanny	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Nanny	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Nanny	Fingal	Further investigation/monitoring required	DATA+
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Nanny	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Nanny	Fingal	Develop septic system management programme	Septic
River	Nanny	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Nanny	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Nanny	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Nanny	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Nanny	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Nanny	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Nanny	Meath	Water Supplies Act 1942	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Nanny	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Nanny	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Nanny	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Nanny	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Nanny	Meath	PCS - Principles for Good Plant Protection Practice	Chem
River	Nanny	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Nanny	Meath	Further investigation/monitoring required	DATA+
River	Nanny	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Nanny	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Nanny	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Nanny	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Nanny	Meath	Enforce Regulations on Septic Systems	Septic
River	Nanny	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Nanny	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
River	Nanny	Meath	OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
River	Nanny	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Nanny	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Nanny	Meath	Tertiary Treatment	WWTP
River	Nanny	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Newcastle	Wicklow	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Newcastle	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Newcastle	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Newcastle	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Newcastle	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Newcastle	Wicklow	Water Supplies Act 1942	ABS
River	Newcastle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Newcastle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Newcastle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Newcastle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Newcastle	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Newcastle	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Newcastle	Wicklow	Further investigation/monitoring required	DATA+
River	Newcastle	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Newcastle	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Newcastle	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Newcastle	Wicklow	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Newcastle	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Newcastle	Wicklow	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
River	Newcastle	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
River	Newcastle	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Newcastle	Wicklow	Investigate and eliminate misconnections	WWTP
River	Newcastle	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Potters	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Potters	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Potters	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Potters	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Potters	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Potters	Wicklow	Water Supplies Act 1942	ABS
River	Potters	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Potters	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Potters	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Potters	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Potters	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Potters	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Potters	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Potters	Wicklow	Further investigation/monitoring required	DATA+
River	Potters	Wicklow	Mitigate impact of quarry activities	DS
River	Potters	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Potters	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Potters	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Potters	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Potters	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Rathnew	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Rathnew	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Rathnew	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Rathnew	Wicklow	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Rathnew	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Rathnew	Wicklow	Water Supplies Act 1942	ABS
River	Rathnew	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Rathnew	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Rathnew	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Rathnew	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Rathnew	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Rathnew	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Rathnew	Wicklow	Further investigation/monitoring required	DATA+
River	Rathnew	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Rathnew	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Rathnew	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Rathnew	Wicklow	Implement SUDS	WWTP
River	Rathnew	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Ryewater	Kildare	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Ryewater	Kildare	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Ryewater	Kildare	National Water Pricing Policy Framework (1998)	ABS
River	Ryewater	Kildare	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Ryewater	Kildare	Water Supplies Act 1942	ABS
River	Ryewater	Kildare	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Ryewater	Kildare	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Ryewater	Kildare	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
River	Ryewater	Kildare	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Ryewater	Kildare	Planning Development Acts 2000 - 2006	CROSS
River	Ryewater	Kildare	Further investigation/monitoring required	DATA+
River	Ryewater	Kildare	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	MORP
River	Ryewater	Kildare	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Ryewater	Kildare	Enforce Regulations on Septic Systems	Septic
River	Ryewater	Kildare	Increase public awareness	Septic
River	Ryewater	Kildare	Implement Fats, Oils and Grease Programme	WWTP
River	Ryewater	Kildare	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
River	Ryewater	Kildare	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Ryewater	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Ryewater	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Ryewater	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Ryewater	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Ryewater	Meath	Water Supplies Act 1942	ABS
River	Ryewater	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Ryewater	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Ryewater	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Ryewater	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Ryewater	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Ryewater	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Ryewater	Meath	Further investigation/monitoring required	DATA+
River	Ryewater	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Ryewater	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Ryewater	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Ryewater	Meath	Enforce Regulations on Septic Systems	Septic
River	Ryewater	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Ryewater	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
River	Ryewater	Meath	OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
River	Ryewater	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Ryewater	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Santry_Mayne_Sluice	Dublin City	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Santry_Mayne_Sluice	Dublin City	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Santry_Mayne_Sluice	Dublin City	Implement Measures in other Pressure Categories	CROSS
River	Santry_Mayne_Sluice	Dublin City	Implement Upstream Programmes of Measures	CROSS
River	Santry_Mayne_Sluice	Dublin City	Planning and Development Regulations 2001 - 2007	CROSS
River	Santry_Mayne_Sluice	Dublin City	Further investigation/monitoring required	DATA+
River	Santry_Mayne_Sluice	Dublin City	Further investigation/monitoring required	DATA+
River	Santry_Mayne_Sluice	Dublin City	Survey Banks/Coast	DATA+
River	Santry_Mayne_Sluice	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Santry_Mayne_Sluice	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Santry_Mayne_Sluice	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Santry_Mayne_Sluice	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Santry_Mayne_Sluice	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Santry_Mayne_Sluice	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
River	Santry_Mayne_Sluice	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Santry_Mayne_Sluice	Dublin City	Collection system - Network management & operations programme	WWTP
River	Santry_Mayne_Sluice	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
River	Santry_Mayne_Sluice	Dublin City	Implement Fats, Oils and Grease Programme	WWTP
River	Santry_Mayne_Sluice	Dublin City	Investigate and eliminate misconnections	WWTP
River	Santry_Mayne_Sluice	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Santry_Mayne_Sluice	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Santry_Mayne_Sluice	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Santry_Mayne_Sluice	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Santry_Mayne_Sluice	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Santry_Mayne_Sluice	Fingal	Water Supplies Act 1942	ABS
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Santry_Mayne_Sluice	Fingal	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Santry_Mayne_Sluice	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Santry_Mayne_Sluice	Fingal	Further investigation/monitoring required	DATA+
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Santry_Mayne_Sluice	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Santry_Mayne_Sluice	Fingal	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Santry_Mayne_Sluice	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Santry_Mayne_Sluice	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Santry_Mayne_Sluice	Fingal	Carry out septic system inspections and upgrades	Septic
River	Santry_Mayne_Sluice	Fingal	Develop septic system management programme	Septic
River	Santry_Mayne_Sluice	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Santry_Mayne_Sluice	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Shanganagh	DLRCC	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Shanganagh	DLRCC	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Shanganagh	DLRCC	Develop and employ demand reduction measures	ABS
River	Shanganagh	DLRCC	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Shanganagh	DLRCC	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Shanganagh	DLRCC	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Shanganagh	DLRCC	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Shanganagh	DLRCC	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Shanganagh	DLRCC	National Water Pricing Policy Framework (1998)	ABS
River	Shanganagh	DLRCC	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Shanganagh	DLRCC	Record daily abstraction rates	ABS
River	Shanganagh	DLRCC	Water Supplies Act 1942	ABS
River	Shanganagh	DLRCC	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
River	Shanganagh	DLRCC	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards): Carry out full Environmental Impact Assessment prior to development in accordance with legislation	CROSS
River	Shanganagh	DLRCC	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Shanganagh	DLRCC	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Shanganagh	DLRCC	Planning and Development Regulations 2001 - 2007	CROSS
River	Shanganagh	DLRCC	River Polishing - Reed Bed	CROSS
River	Shanganagh	DLRCC	Survey Banks/Coast	DATA+
River	Shanganagh	DLRCC	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
River	Shanganagh	DLRCC	EC (Natural Habitats) Regulations 1997- 2005	ECO
River	Shanganagh	DLRCC	Fisheries Act 1959 - 1981	ECO
River	Shanganagh	DLRCC	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Shanganagh	DLRCC	Facilitate Fish Migration	MORP
River	Shanganagh	DLRCC	Introduce Soft Edges to Inferior Habitats	MORP
River	Shanganagh	DLRCC	Preserve and/or restore banks	MORP
River	Shanganagh	DLRCC	Address diffuse silt pollution from green field site development	MORP
River	Shanganagh	DLRCC	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Shanganagh	DLRCC	CSOs to comply with GDSDS recommendations	WWTP
River	Shanganagh	DLRCC	Implement Fats, Oils and Grease Programme	WWTP
River	Shanganagh	DLRCC	Investigate and eliminate misconnections	WWTP
River	Stonyford	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Stonyford	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Stonyford	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Stonyford	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Stonyford	Meath	Water Supplies Act 1942	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Stonyford	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Stonyford	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Stonyford	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Stonyford	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Stonyford	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Stonyford	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Stonyford	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Stonyford	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Stonyford	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Stonyford	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Stonyford	Meath	Enforce Regulations on Septic Systems	Septic
River	Stonyford	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Stonyford	Westmeath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Stonyford	Westmeath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Stonyford	Westmeath	National Water Pricing Policy Framework (1998)	ABS
River	Stonyford	Westmeath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Stonyford	Westmeath	Water Supplies Act 1942	ABS
River	Stonyford	Westmeath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Stonyford	Westmeath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Stonyford	Westmeath	Further investigation/monitoring required	DATA+
River	Stonyford	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Stonyford	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Stonyford	Westmeath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Stonyford	Westmeath	Implement Community Digestors for Alternative Energy	WWTP
River	Stonyford	Westmeath	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): License all waste water discharges of greater than 500 PE	WWTP
River	Stonyford	Westmeath	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
River	Tempelrainy	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Tempelrainy	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Tempelrainy	Wicklow	National Water Pricing Policy Framework (1998)	ABS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Tempelrainy	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Tempelrainy	Wicklow	Water Supplies Act 1942	ABS
River	Tempelrainy	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Tempelrainy	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Tempelrainy	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Tempelrainy	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Tempelrainy	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Tempelrainy	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Tempelrainy	Wicklow	Further investigation/monitoring required	DATA+
River	Tempelrainy	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Tempelrainy	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Tempelrainy	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Tempelrainy	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
River	Tempelrainy	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Tolka	Dublin City	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Tolka	Dublin City	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Tolka	Dublin City	Implement Measures in other Pressure Categories	CROSS
River	Tolka	Dublin City	Implement Upstream Programmes of Measures	CROSS
River	Tolka	Dublin City	Planning and Development Regulations 2001 - 2007	CROSS
River	Tolka	Dublin City	Further investigation/monitoring required	DATA+
River	Tolka	Dublin City	Survey Banks/Coast	DATA+
River	Tolka	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
River	Tolka	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
River	Tolka	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
River	Tolka	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
River	Tolka	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Tolka	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
River	Tolka	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
River	Tolka	Dublin City	Collection system - Network management & operations programme	WWTP
River	Tolka	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
River	Tolka	Dublin City	Implement Fats, Oils and Grease Programme	WWTP
River	Tolka	Dublin City	Investigate and eliminate misconnections	WWTP
River	Tolka	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
River	Tolka	Fingal	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Tolka	Fingal	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Tolka	Fingal	National Water Pricing Policy Framework (1998)	ABS
River	Tolka	Fingal	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Tolka	Fingal	Water Supplies Act 1942	ABS
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Tolka	Fingal	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Tolka	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure
River	Tolka	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Tolka	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Tolka	Fingal	Develop septic system management programme	Septic
River	Tolka	Fingal	Carry out septic system inspections and upgrades	Septic
River	Tolka	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	WWTP
River	Tolka	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Tolka	Meath	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Tolka	Meath	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Tolka	Meath	National Water Pricing Policy Framework (1998)	ABS
River	Tolka	Meath	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Tolka	Meath	Water Supplies Act 1942	ABS
River	Tolka	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Tolka	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Tolka	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Tolka	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Tolka	Meath	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Tolka	Meath	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Tolka	Meath	Further investigation/monitoring required	DATA+
River	Tolka	Meath	DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure
River	Tolka	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Tolka	Meath	Apply Heavily Modified Waterbody Measures (See External Document)	MORP

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Tolka	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	S4
River	Tolka	Meath	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Tolka	Meath	Enforce Regulations on Septic Systems	Septic
River	Tolka	Meath	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Septic
River	Tolka	Meath	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Septic
River	Tolka	Meath	OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Septic
River	Tolka	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
River	Tolka	Meath	Implement Community Digestors for Alternative Energy	WWTP
River	Tolka	Meath	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
River	Vartry	Wicklow	Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	ABS
River	Vartry	Wicklow	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	ABS
River	Vartry	Wicklow	Develop and employ demand reduction measures	ABS
River	Vartry	Wicklow	Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	ABS
River	Vartry	Wicklow	Develop Habitat Suitability Curves for salmonids in Irish Rivers	ABS
River	Vartry	Wicklow	Establish Minimum Instream Flow Conditions and requirements for compensation releases to allow flow variations	ABS
River	Vartry	Wicklow	In flow regulated rivers, establish guidance on flow variations to support ecology	ABS
River	Vartry	Wicklow	Investigate implementation of smaller water schemes to reduce demand on other resources	ABS
River	Vartry	Wicklow	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	ABS
River	Vartry	Wicklow	National Water Pricing Policy Framework (1998)	ABS
River	Vartry	Wicklow	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
River	Vartry	Wicklow	Record daily abstraction rates	ABS
River	Vartry	Wicklow	Water Supplies Act 1942	ABS
River	Vartry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	AGR
River	Vartry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
River	Vartry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	AGR-PS
River	Vartry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
River	Vartry	Wicklow	Restrict Cattle Access to rivers - Create Cattle Drinking points	AGR-PS
River	Vartry	Wicklow	EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	CROSS
River	Vartry	Wicklow	Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	CROSS
River	Vartry	Wicklow	Further investigation/monitoring required	DATA+
River	Vartry	Wicklow	Mitigate impact of quarry activities	DS

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WB Type	WMU Name	Auth. Code	Measure	Source
River	Vartry	Wicklow	Implement Forestry and Water Quality Guidelines	FOR
River	Vartry	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure
River	Vartry	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
River	Vartry	Wicklow	Carry out septic system inspections and upgrades	Septic
River	Vartry	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
River	Vartry	Wicklow	Implement Community Digestors for Alternative Energy	WWTP
River	Vartry	Wicklow	Upgrade WWTW and Collecting Systems <2000 PE	WWTP
Transitional	Avoca Estuary	Wicklow	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
Transitional	Avoca Estuary	Wicklow	Implement Upstream Programmes of Measures	CROSS
Transitional	Avoca Estuary	Wicklow	Planning and Development Regulations 2001 - 2007	CROSS
Transitional	Avoca Estuary	Wicklow	Survey Banks/Coast	DATA+
Transitional	Avoca Estuary	Wicklow	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Transitional	Avoca Estuary	Wicklow	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Transitional	Avoca Estuary	Wicklow	EC (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations (S.I. 117 of 2003): Improve the availability and use of port reception facilities for ship-generated waste and cargo residues	DS
Transitional	Avoca Estuary	Wicklow	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Avoca Estuary	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Avoca Estuary	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Avoca Estuary	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Avoca Estuary	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Avoca Estuary	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Avoca Estuary	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Avoca Estuary	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Avoca Estuary	Wicklow	ICZM - Using the RBMP process, continue to include departmental co-operation for TraC water body management.	MORP
Transitional	Avoca Estuary	Wicklow	Introduce Soft Edges to Inferior Habitats	MORP
Transitional	Avoca Estuary	Wicklow	Foreshore Act (1933): Licence required for any works on the foreshore.	MORP
Transitional	Avoca Estuary	Wicklow	Preserve and/or restore banks	MORP
Transitional	Avoca Estuary	Wicklow	Review Dredging Practice	MORP
Transitional	Avoca Estuary	Wicklow	Use MImAS as a risk assessment tool to assess water body status deterioration related to developments affecting transitional and coastal water bodies	MORP
Transitional	Avoca Estuary	Wicklow	Assess channelisation & flood embankments using MImAS	MORP
Transitional	Avoca Estuary	Wicklow	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Transitional	Avoca Estuary	Wicklow	Treatment Plant Tie-ins	Septic
Transitional	Avoca Estuary	Wicklow	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Avoca Estuary	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Avoca Estuary	Wicklow	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	Avoca Estuary	Wicklow	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	WWTP
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Industrial waste water entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process	WWTP
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Transitional	Avoca Estuary	Wicklow	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Transitional	Avoca Estuary	Wicklow	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Transitional	Avoca Estuary	Wicklow	Water Services Act 2007	WWTP
Transitional	Boyne Estuary	Louth	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
Transitional	Boyne Estuary	Louth	Implement Upstream Programmes of Measures	CROSS
Transitional	Boyne Estuary	Louth	Survey Banks/Coast	DATA+
Transitional	Boyne Estuary	Louth	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Transitional	Boyne Estuary	Louth	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Transitional	Boyne Estuary	Louth	Harbour dredgings to be suitably disposed of	DS
Transitional	Boyne Estuary	Louth	Monitor Shipping Activities	DS
Transitional	Boyne Estuary	Louth	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Boyne Estuary	Louth	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Boyne Estuary	Louth	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Boyne Estuary	Louth	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Boyne Estuary	Louth	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Boyne Estuary	Louth	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Boyne Estuary	Louth	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Boyne Estuary	Louth	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Boyne Estuary	Louth	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Boyne Estuary	Louth	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Boyne Estuary	Louth	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Boyne Estuary	Louth	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Boyne Estuary	Louth	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Transitional	Boyne Estuary	Louth	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Transitional	Boyne Estuary	Louth	Assess CSO and Water Quality Impact from Urban Pressures	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Boyne Estuary	Louth	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Transitional	Boyne Estuary	Meath	Implement Upstream Programmes of Measures	CROSS
Transitional	Boyne Estuary	Meath	Survey Banks/Coast	DATA+
Transitional	Boyne Estuary	Meath	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Boyne Estuary	Meath	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Boyne Estuary	Meath	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Boyne Estuary	Meath	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Boyne Estuary	Meath	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Boyne Estuary	Meath	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Boyne Estuary	Meath	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Boyne Estuary	Meath	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Boyne Estuary	Meath	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Boyne Estuary	Meath	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Boyne Estuary	Meath	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Boyne Estuary	Meath	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Transitional	Boyne Estuary	Meath	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
Transitional	Broad Lough	Wicklow	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
Transitional	Broad Lough	Wicklow	Survey Banks/Coast	DATA+
Transitional	Broad Lough	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Broad Lough	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Broad Lough	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Broad Lough	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Broad Lough	Wicklow	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Broad Lough	Wicklow	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Broad Lough	Wicklow	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Broad Lough	Wicklow	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Broad Lough	Wicklow	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Broad Lough	Wicklow	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	Broad Lough	Wicklow	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Broad Lough	Wicklow	Collection system - Network management & operations programme	WWTP
Transitional	Broad Lough	Wicklow	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Broad Lough	Wicklow	CSO - Implement FOGG Regulations	WWTP
Transitional	Broadmeadow Water	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Broadmeadow Water	Fingal	Implement Upstream Programmes of Measures	CROSS
Transitional	Broadmeadow Water	Fingal	Planning Development Acts 2000 - 2006	CROSS
Transitional	Broadmeadow Water	Fingal	Survey Banks/Coast	DATA+
Transitional	Broadmeadow Water	Fingal	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Broadmeadow Water	Fingal	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Broadmeadow Water	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Broadmeadow Water	Fingal	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Determine causes of non compliance and corrective actions	ECO
Transitional	Broadmeadow Water	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Broadmeadow Water	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Broadmeadow Water	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Broadmeadow Water	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Broadmeadow Water	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Broadmeadow Water	Fingal	The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	ECO
Transitional	Broadmeadow Water	Fingal	For sites not at Favourable conservation Status Set targets and timeframes for achieving status	HS
Transitional	Broadmeadow Water	Fingal	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Broadmeadow Water	Fingal	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Transitional	Broadmeadow Water	Fingal	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Broadmeadow Water	Fingal	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Broadmeadow Water	Fingal	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	Broadmeadow Water	Fingal	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Broadmeadow Water	Fingal	Collection system - Network management & operations programme	WWTP
Transitional	Broadmeadow Water	Fingal	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Broadmeadow Water	Fingal	CSO - Implement FOGG Regulations	WWTP
Transitional	Broadmeadow Water	Fingal	CSOs to comply with GDSDS recommendations	WWTP
Transitional	Broadmeadow Water	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP
Transitional	Broadmeadow Water	Fingal	Tertiary Treatment	WWTP
Transitional	Broadmeadow Water	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Broadmeadow Water	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Transitional	Broadmeadow Water	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Transitional	Broadmeadow Water	Fingal	Water Services Act 2007	WWTP
Transitional	Dargle Estuary	Wicklow	Implement Upstream Programmes of Measures	CROSS
Transitional	Dargle Estuary	Wicklow	Further investigation/monitoring required	DATA+
Transitional	Dargle Estuary	Wicklow	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Kilcoole Marsh	Wicklow	Further investigation/monitoring required	DATA+
Transitional	Liffey Estuary Lower	Dublin City	Survey Banks/Coast	DATA+
Transitional	Liffey Estuary Lower	Dublin City	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Transitional	Liffey Estuary Lower	Dublin City	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Transitional	Liffey Estuary Lower	Dublin City	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Transitional	Liffey Estuary Lower	Dublin City	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Liffey Estuary Lower	Dublin City	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Liffey Estuary Lower	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Liffey Estuary Lower	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Liffey Estuary Lower	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Liffey Estuary Lower	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Liffey Estuary Lower	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Liffey Estuary Lower	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Liffey Estuary Lower	Dublin City	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Liffey Estuary Lower	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Transitional	Liffey Estuary Lower	Dublin City	LA to adopt a common approach to issuance of Section 4 and 16 licences	S4
Transitional	Liffey Estuary Lower	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Liffey Estuary Lower	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Liffey Estuary Lower	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Liffey Estuary Lower	Dublin City	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Liffey Estuary Lower	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Liffey Estuary Lower	Dublin City	LA to adopt common approach for analysis and reporting of water/effluent samples at WWTP	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	WWTP

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Liffey Estuary Lower	Dublin City	PMS should be implemented and audited at all WWTPs	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Tertiary Treatment	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 15 mg/l or ≥ 70% TN reduction for p.e's >10,000 and discharging to sensitive waters (unless no eutrophication potential)	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 2 mg/l or ≥ 80% TP reduction for p.e's >10,000 discharging to sensitive waters (unless no eutrophication potential)	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Water Services Act 2007	WWTP
Transitional	Liffey Estuary Lower	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
Transitional	Liffey Estuary Upper	Dublin City	Implement Upstream Programmes of Measures	CROSS
Transitional	Liffey Estuary Upper	Dublin City	Survey Banks/Coast	DATA+
Transitional	Liffey Estuary Upper	Dublin City	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Transitional	Liffey Estuary Upper	Dublin City	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Transitional	Liffey Estuary Upper	Dublin City	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Liffey Estuary Upper	Dublin City	Water Quality (Dangerous Substances Regulations, 2001	DS
Transitional	Liffey Estuary Upper	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Liffey Estuary Upper	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Liffey Estuary Upper	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Liffey Estuary Upper	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Liffey Estuary Upper	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Liffey Estuary Upper	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Liffey Estuary Upper	Dublin City	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Liffey Estuary Upper	Dublin City	EPA (Licensing) Regulations, 1994 & 2004	IPPC
Transitional	Liffey Estuary Upper	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Liffey Estuary Upper	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Transitional	Liffey Estuary Upper	Dublin City	LA to adopt a common approach to issuance of Section 4 and 16 licences	S4
Transitional	Liffey Estuary Upper	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Liffey Estuary Upper	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Liffey Estuary Upper	Dublin City	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Liffey Estuary Upper	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
Transitional	Liffey Estuary Upper	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Mayne Estuary	Fingal	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
Transitional	Mayne Estuary	Fingal	Implement Upstream Programmes of Measures	CROSS
Transitional	Mayne Estuary	Fingal	Planning and Development Regulations 2001 - 2007	CROSS
Transitional	Mayne Estuary	Fingal	Further investigation/monitoring required	DATA+
Transitional	Mayne Estuary	Fingal	Survey Banks/Coast	DATA+
Transitional	Mayne Estuary	Fingal	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Mayne Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Mayne Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Mayne Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Mayne Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Mayne Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Mayne Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Mayne Estuary	Fingal	For sites not at Favourable Conservation Status Set targets and timeframe for achieving status	HS
Transitional	Mayne Estuary	Fingal	Assess channelisation & flood embankments using MImAS	MORP
Transitional	Mayne Estuary	Fingal	Consider morphology within the current development (SEA, EIA, etc) appraisal process	MORP
Transitional	Mayne Estuary	Fingal	Foreshore Act (1933)	MORP
Transitional	Mayne Estuary	Fingal	ICZM - Using the RBMP process, continue to include departmental co-operation for TraC water body management.	MORP
Transitional	Mayne Estuary	Fingal	Introduce Soft Edges to Inferior Habitats	MORP
Transitional	Mayne Estuary	Fingal	Use MImAS as a risk assessment tool to assess water body status deterioration related to developments affecting transitional and coastal water bodies	MORP
Transitional	Mayne Estuary	Fingal	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Mayne Estuary	Fingal	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Mayne Estuary	Fingal	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	Mayne Estuary	Fingal	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Mayne Estuary	Fingal	Collection system - Network management & operations programme	WWTP
Transitional	Mayne Estuary	Fingal	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Mayne Estuary	Fingal	CSO - Implement FOGG Regulations	WWTP
Transitional	Nanny Estuary	Meath	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
Transitional	Nanny Estuary	Meath	Implement Upstream Programmes of Measures	CROSS
Transitional	Nanny Estuary	Meath	Further investigation/monitoring required	DATA+
Transitional	Nanny Estuary	Meath	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Nanny Estuary	Meath	EPA Waste (Licensing) Regulations, 2004	IPPC
Transitional	Nanny Estuary	Meath	Collection system - Network management & operations programme	WWTP
Transitional	Nanny Estuary	Meath	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Nanny Estuary	Meath	CSO - Implement FOGG Regulations	WWTP
Transitional	North Bull Island	Dublin City	Implement Upstream Programmes of Measures	CROSS
Transitional	North Bull Island	Dublin City	Further investigation/monitoring required	DATA+

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	North Bull Island	Dublin City	Survey Banks/Coast	DATA+
Transitional	North Bull Island	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	North Bull Island	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	North Bull Island	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	North Bull Island	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	North Bull Island	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	North Bull Island	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	North Bull Island	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	North Bull Island	Dublin City	Assess the effects of coastal defences	MORP
Transitional	North Bull Island	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	North Bull Island	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	North Bull Island	Dublin City	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	North Bull Island	Dublin City	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	North Bull Island	Dublin City	Collection system - Network management & operations programme	WWTP
Transitional	North Bull Island	Dublin City	Collection System - Upgrades and rehabilitation	WWTP
Transitional	North Bull Island	Dublin City	CSO - Implement FOGG Regulations	WWTP
Transitional	North Bull Island	Fingal	Implement Upstream Programmes of Measures	CROSS
Transitional	North Bull Island	Fingal	Further investigation/monitoring required	DATA+
Transitional	North Bull Island	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	ECO
Transitional	North Bull Island	Fingal	EC (Natural Habitats) Regulations 1997- 2005	ECO
Transitional	North Bull Island	Fingal	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	North Bull Island	Fingal	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	North Bull Island	Fingal	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	North Bull Island	Fingal	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	North Bull Island	Fingal	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	North Bull Island	Fingal	Collection system - Network management & operations programme	WWTP
Transitional	North Bull Island	Fingal	Collection System - Upgrades and rehabilitation	WWTP
Transitional	North Bull Island	Fingal	CSO - Implement FOGG Regulations	WWTP
Transitional	Rogerstown Estuary	Fingal	EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	AGR
Transitional	Rogerstown Estuary	Fingal	EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	CROSS
Transitional	Rogerstown Estuary	Fingal	Implement Upstream Programmes of Measures	CROSS
Transitional	Rogerstown Estuary	Fingal	Planning and Development Regulations 2001 - 2007	CROSS
Transitional	Rogerstown Estuary	Fingal	Planning Development Acts 2000 - 2006	CROSS
Transitional	Rogerstown Estuary	Fingal	Survey Banks/Coast	DATA+
Transitional	Rogerstown Estuary	Fingal	EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	DS
Transitional	Rogerstown Estuary	Fingal	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Transitional	Rogerstown Estuary	Fingal	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Rogerstown Estuary	Fingal	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Rogerstown Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Rogerstown Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Rogerstown Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO
Transitional	Rogerstown Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Rogerstown Estuary	Fingal	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Rogerstown Estuary	Fingal	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Rogerstown Estuary	Fingal	EPA Waste (Licensing) Regulations, 2004	IPPC
Transitional	Rogerstown Estuary	Fingal	Assess impacts of causeway	MORP
Transitional	Rogerstown Estuary	Fingal	Foreshore Act (1933)	MORP
Transitional	Rogerstown Estuary	Fingal	Preserve and/or restore banks	MORP
Transitional	Rogerstown Estuary	Fingal	Treatment Plant Tie-ins	Septic
Transitional	Rogerstown Estuary	Fingal	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Rogerstown Estuary	Fingal	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Rogerstown Estuary	Fingal	Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	U-DIFF
Transitional	Rogerstown Estuary	Fingal	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Rogerstown Estuary	Fingal	Collection system - Network management & operations programme	WWTP
Transitional	Rogerstown Estuary	Fingal	Collection System - Upgrades and rehabilitation	WWTP
Transitional	Rogerstown Estuary	Fingal	CSO - Implement FOGG Regulations	WWTP
Transitional	Rogerstown Estuary	Fingal	Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	WWTP
Transitional	Rogerstown Estuary	Fingal	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
Transitional	Rogerstown Estuary	Fingal	Water Services Act 2007	WWTP
Transitional	Tolka Estuary	Dublin City	Survey Banks/Coast	DATA+
Transitional	Tolka Estuary	Dublin City	EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	DS
Transitional	Tolka Estuary	Dublin City	Framework for Major Emergency Management, Office of Emergency Planning, 2006	DS
Transitional	Tolka Estuary	Dublin City	Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	DS
Transitional	Tolka Estuary	Dublin City	Water Quality Dangerous Substances Regulations, 2001	DS
Transitional	Tolka Estuary	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	ECO
Transitional	Tolka Estuary	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	ECO
Transitional	Tolka Estuary	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	ECO

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WB Type	WMU Name	Auth. Code	Measure	Source
Transitional	Tolka Estuary	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	ECO
Transitional	Tolka Estuary	Dublin City	EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	ECO
Transitional	Tolka Estuary	Dublin City	EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	ECO
Transitional	Tolka Estuary	Dublin City	For sites not at Favourable conservation Status Set targets and timeframe for achieving status	HS
Transitional	Tolka Estuary	Dublin City	Apply Heavily Modified Waterbody Measures (See External Document)	MORP
Transitional	Tolka Estuary	Dublin City	Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	S4
Transitional	Tolka Estuary	Dublin City	Diffuse Runoff (Urban) - Gullies Management	U-DIFF
Transitional	Tolka Estuary	Dublin City	Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	U-DIFF
Transitional	Tolka Estuary	Dublin City	Diffuse Runoff (Urban) - Street Cleaning Programme	U-DIFF
Transitional	Tolka Estuary	Dublin City	Assess CSO and Water Quality Impact from Urban Pressures	WWTP
Transitional	Tolka Estuary	Dublin City	Collection system - Network management & operations programme	WWTP
Transitional	Tolka Estuary	Dublin City	Collection System - Upgrades and rehabilitation	WWTP

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Appendix C - Range of Supplementary Measures (National)

Table C1: Point and Diffuse Sources- Wastewater

Code	Supplementary Measure	National Number
Reduce		
S1	Measure intended to reduce loading to the treatment plant: Limit or cease the direct importation of polluting matter (for example liquid wastes, landfill leachate, sludges) Investigate the extent of use and impact of under-sink food waste disintegrators and take appropriate actions Investigate fats/oils/grease influent concentrations and take actions reduce FOG entering the collection system	264
	ERBD measures likened to national measures	
	Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water EPA- Code of Practice for Wastewater Treatment Systems for Single Houses Investigate Fats, Oils and Grease programme	
S2	Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants	420
	ERBD measures likened to national measures	
	Include an Environmental Report with Development Plans	
S3	Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive	270
	ERBD measures likened to national measures	
	Improve removal of certain parameters at WWTP	
S4	Initiate research to verify risk assessment results and determine the impact of the discharge	443
	ERBD measures likened to national measures	
	Further investigation/monitoring required	
S5	Use decision making tools in point source discharge management	
	ERBD measures likened to national measures	
	PMS should be implemented and audited at all WWTPs Choose the point of discharge to minimise the adverse effects on the environment	
Remediate		
S6	Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive	5
	ERBD measures likened to national measures	
	Upgrade domestic WWTWs to secondary treatment for p.e.'s >2,000 discharging to rivers lakes and estuaries	
S7	Apply a higher standard of treatment (stricter emission controls) where necessary	275
	ERBD measures likened to national measures	
	Monitor the discharge from urban wastewater plants and check the quality compliance with urban wastewater treatment legislation	
S8	Upgrade the plant to remove specific substances known to impact on water quality status	275
	ERBD measures likened to national measures	
	Tertiary Treatment Improve removal of certain parameters at WWTP	
S9	Install ultraviolet or similar type treatment	5
	ERBD measures likened to national measures	
	Tertiary Treatment	
S10	Relocate the point of discharge	275
	ERBD measures likened to national measures	
	Choose the point of discharge to minimise the adverse effects on the environment	

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Table C2: Point and Diffuse Sources- Wastewater from unsewered properties

Code	Supplementary Measure	National Number
Reduce		
S1	Amend building regulations ■ Code of practice for single houses ■ Code of practice for large systems ■ Certification of unsewered and percolation areas	all
	ERBD measures likened to national measures	
	Link EPA Code of Practice for Wastewater Treatment Systems to building regulations EPA – Code of Practice for Wastewater Treatment Systems for Single Houses EPA – Code of Practice Wastewater Treatment Systems for Small businesses, Hotels and Communities Enforce regulations on septic systems	
S2	Establish expert panels for site investigation and certification of installed systems	all
	ERBD measures likened to national measures	
	LAs to adopt a common register of approved site assessors and common code of practice	
S3	Assess applications for new un sewered systems by applying risk mapping/decision support systems and codes of practice	all
	ERBD measures likened to national measures	
	Develop septic system management programme	
Remediate		
S4	Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system	
	ERBD measures likened to national measures	
	LA s to utilise risk of maps of OSWTS to inform decision making and target areas for inspections	
S5	Enforce requirements for percolation and de-sludging	
	ERBD measures likened to national measures	
	Enforce regulations on septic systems Develop septic system management programme	
	Carry out septic system inspections and upgrades	
S6	Consider connection to municipal systems	
	ERBD measures likened to national measures	
	Treatment Plant Tie-ins	

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Table C3: Point and Diffuse Sources- Forestry

Code	Supplementary Measure	National Number
Reduce		
S1	Management Instruments- Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	
	ERBD measures likened to national measures	
	Implement Forestry and Water Quality Guidelines	
S2	Acidification- Avoid or limit (to below critical thresholds) afforestation on 1st and 2nd order stream catchments in acid sensitive catchments	
	ERBD measures likened to national measures	
	Forest Service- Protocol on acid sensitive areas	
S3	Acidification – Restructure existing forests to include open space and structural diversity through age classes and species mix	
	ERBD measures likened to national measures	
	Forest Service-Code of best forest practice	
S4	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	
	ERBD measures likened to national measures	
	Update protocol on acid sensitive areas based on acid sensitive areas map and research	
S5	Eutrophication and Sedimentation – Avoid or limit forest cover on peat sites	
	ERBD measures likened to national measures	
	Forest Service-Protocol on acid sensitive areas	
S6	Eutrophication and Sedimentation- Change the tree species mix (for example broadleaves) on replanting	
	ERBD measures likened to national measures	
	Forest Service- Code of Best Forest Practice	
S7	Eutrophication and Sedimentation-Limiting felling coup size	
	ERBD measures likened to national measures	
	Forest Service- Forest Harvesting and Environmental Guidelines	
S8	Eutrophication and Sedimentation- Establish new forest structures on older plantations (including riparian zones drainage layouts, species mix, open areas	
	ERBD measures likened to national measures	
	New guidance on management of forestry planted prior to the introduction of the Forest Service Guidance documents and Codes of practices	

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S9	Hydromorphology- Audit existing drainage networks in forest catchments	
	ERBD measures likened to national measures	
	Forest Service- Code of Best Forest Practice	
S10	Pesticide Use- Reduce pesticide usage	
	ERBD measures likened to national measures	
	Forest Service-Forest Protection Guidelines	
S11	Pesticide Use –Pre-dip trees in nurseries prior to planting out	
	ERBD measures likened to national measures	
	Forest Service- Forestry and Aerial fertilisation Guidelines Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification	
S12	Pesticide Use- Maintain registers of pesticide use	
Remediate		
S13	Acidification- Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming)	
	ERBD measures likened to national measures	
	Forest Service- Protocol on acid sensitive areas	
S14	Acidification- Manage Catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas	
	ERBD measures likened to national measures	
	Forest Service- Code of Best Forest Practice	
S15	Acidification- Implement measures to increase residence times and soil wetting, including no drainage installation in some areas	
	ERBD measures likened to national measures	
	Forest Service-Protocol on acid sensitive areas	
S16	Eutrophication and Sedimentation- Establish riparian zone management prior to clearfelling	
	ERBD measures likened to national measures	
	Forest Service- Harvesting and Environmental Guidelines	
S17	Eutrophication and Sedimentation- Enhance sediment Control	
	ERBD measures likened to national measures	
	Forest Service- Harvesting and Environmental Guidelines	
S18	Eutrophication and Sedimentation-Manage catchment to increase residence times and soil wetting, including no drainage in some locations	
	ERBD measures likened to national measures	
	Forest Service- Harvesting and Environmental Guidelines	
S19	Hydromorphology- Enhance drainage network management- minimise drainage in peat soils	
	ERBD measures likened to national measures	
	Forest Service- Code of Best Forest Practice	
S20	Pesticide Use- Develop biological control methods	
	ERBD measures likened to national measures	
	Forest Service- Code of Best Forest Practice	

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Table C4: Physical Modifications

Code	Supplementary Measure	National Number
Reduce		
S1	Code of Practice	
	ERBD measures likened to national measures	
	Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	
S2	Support voluntary initiatives	
	ERBD measures likened to national measures	
	Morphology- Physical Modifications Campaign	
Remediate		
S3	Chanelisation impact remediation schemes	
	ERBD measures likened to national measures	
	Assess channelization & flood embankments using MImAS	
S4	Channelisation investigation	
	ERBD measures likened to national measures	
	Assess channelization & flood embankments using MImAS	
S5	Over-grazing remediation	
	ERBD measures likened to national measures	
	Restrict cattle access to rivers- Create cattle access drinking points	
S6	Impassable barriers remediation schemes.	
	ERBD measures likened to national measures	
	Assess need for barrier removal based on risk and expert judgement Facilitate fish migration	
S7	Impassable barriers investigation	
	ERBD measures likened to national measures	
	Assess need for barrier removal based on risk and expert judgement	

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Appendix D - Frequency of Measures

Table D1: Frequency of Use of each Measure

Measure Name	Source Name	Frequency of Use
Alter the availability of supply through conjunctive use or integrated water resources management, water reuse, implementing SUDS in developed areas, implementation of abstraction controls, use of additional storage or alternative water source	Abstractions	8
Collect abstraction rates and compensation flow releases on a continuous bases	Abstractions	1
Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	Abstractions	58
Develop and employ demand reduction measures	Abstractions	8
Develop Habitat Suitability Curves for coarse fish and other important aquatic organisms	Abstractions	9
Develop Habitat Suitability Curves for salmonids in Irish Rivers	Abstractions	8
Establish Minimum Instream Flow Conditions and requirements for compensation releases to allow flow variations	Abstractions	1
Further Research on Abstraction Pressure effects on lake ecology (national)	Abstractions	3
In flow regulated rivers, establish guidance on flow variations to support ecology	Abstractions	9
Investigate implementation of smaller water schemes to reduce demand on other resources	Abstractions	8
Licensing system for groundwater abstractions	Abstractions	2
Maintain good hydrological status	Abstractions	1
Modernise Abstraction Legislation, including a system for licensing surface water abstractions	Abstractions	67
National Water Pricing Policy Framework (1998)	Abstractions	67
Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	Abstractions	64
Record daily abstraction rates	Abstractions	23
Record daily water level	Abstractions	15
Water Supplies Act 1942	Abstractions	61
Water Supplies Act 1942: Develop a proposal for extending or providing a supply of water.	Abstractions	6
Develop riparian buffers	Agricultural Point and Diffuse Sources	3
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009)	Agricultural Point and Diffuse Sources	16
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Conduct Farm Surveys	Agricultural Point and Diffuse Sources	85
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Develop fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	Agricultural Point and Diffuse Sources	83
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Discontinue use of soiled water for application to or irrigation of land in certain conditions	Agricultural Point and Diffuse Sources	2
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Enforce National Action Programme	Agricultural Point and Diffuse Sources	8
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Implement soiled water generation minimisation practices	Agricultural Point and Diffuse Sources	74
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Improve farmyard structure/operations to divert rainwater runoff	Agricultural Point and Diffuse Sources	77
Restrict Cattle Access to rivers - Create Cattle Drinking points	Agricultural Point and Diffuse Sources	37
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for application of fertiliser	Chemical Fertiliser	5
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Prohibit application of fertiliser during specific periods	Chemical Fertiliser	2
PCS - Principles for Good Plant Protection Practice	Chemical Fertiliser	9
Restrict use of pesticides within groundwater Source Protection Zones	Chemical Fertiliser	30
Bathing Water Quality Regulations (S.I. 79 of 2008)	Planning, Development and other sources	6

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Measure Name	Source Name	Frequency of Use
Bathing Water Quality Regulations (S.I. 79 of 2008): Classify Bathing Waters	Planning, Development and other sources	3
Bathing Water Quality Regulations (S.I. 79 of 2008): Facilitate public participation and provide public information	Planning, Development and other sources	3
Bathing Water Quality Regulations (S.I. 79 of 2008): Take measures to improve bathing water quality	Planning, Development and other sources	2
Bathing Water Quality Regulations (S.I. 79 of 2008): Test bathing water compliance	Planning, Development and other sources	3
EC (Drinking Water) (No 2) Regulations (S.I. 278 of 2007)	Planning, Development and other sources	23
EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards)	Planning, Development and other sources	9
EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards): Carry out full Environmental Impact Assessment prior to development in accordance with legislation	Planning, Development and other sources	2
EC (Environmental Impact Assessment) Regulations and amendments (S.I. 349 of 1989 onwards): Deliver certification for proposed development on completion of satisfactory EIS	Planning, Development and other sources	1
Emphasise linkages between Planning, Water Services, Transport and Environmental Sections within Local Authorities for planning purposes	Planning, Development and other sources	58
Implement Measures in other Pressure Categories	Planning, Development and other sources	5
Implement Upstream Programmes of Measures	Planning, Development and other sources	25
Planning and Development Regulations 2001 - 2007	Planning, Development and other sources	14
Planning and Development Regulations 2001 - 2007: Include an Environmental Report with Development Plans	Planning, Development and other sources	2
Planning Development Acts 2000 - 2006	Planning, Development and other sources	14
Planning Development Acts 2000 - 2006: Grant, refuse and review licence for developing land	Planning, Development and other sources	2
River Polishing - Reed Bed	Planning, Development and other sources	3
Further investigation/monitoring required	An Absence of sufficient data	113
Sewerage Schemes - Establish dedicated groundwater monitoring systems in highest-risk settings	An Absence of sufficient data	7
Survey Banks/Coast	An Absence of sufficient data	48
Dumping at Sea Act 1996 - 2004 : Permit required for Dumping at Sea	Dangerous Substances	2
EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	Dangerous Substances	24
EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	Dangerous Substances	24
EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	Dangerous Substances	10
EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006): After an accident, operator should take all necessary measures to clear up any pollution caused.	Dangerous Substances	3
EC (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations (S.I. 117 of 2003): Improve the availability and use of port reception facilities for ship-generated waste and cargo residues	Dangerous Substances	3
EC (Prohibition of certain active substances in plant protection products) Regulations, 1981 and amendments	Dangerous Substances	22
EU Regulations Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) (1907/2006/EC)	Dangerous Substances	22
Framework for Major Emergency Management, Office of Emergency Planning, 2006	Dangerous Substances	6
Harbour dredgings to be suitably disposed of	Dangerous Substances	3
License and distribute DAF's GIS mapping of cropping patterns to EPA and local authorities	Dangerous Substances	7
Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998)	Dangerous Substances	10

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Measure Name	Source Name	Frequency of Use
Local Government (Water Pollution) Act 1977 (Water Quality Standards for Phosphorus) Regulations, 1998 (S.I. 258 of 1998): Implement Measures in Phosphorus Regulations Reports	Dangerous Substances	2
Mine discharge to be suitably treated	Dangerous Substances	2
Mitigate impact of quarry activities	Dangerous Substances	7
Monitor Shipping Activities	Dangerous Substances	5
Protection of Groundwater Regulations (S.I. 41 of 1999): Test the effect of discharge on groundwater; test groundwater compliance	Dangerous Substances	1
Report and audit sales and usage of pesticides by sector	Dangerous Substances	7
Water Quality Dangerous Substances Regulations, 2001	Dangerous Substances	28
Water Quality Dangerous Substances Regulations, 2001: Implement Measures in Dangerous Substances Reports	Dangerous Substances	5
EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards)	Poor Ecology	6
EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Designate protected areas	Poor Ecology	32
EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Preserve protected areas against pollution deterioration and disturbance	Poor Ecology	33
EC (Conservation of Wild Birds) Regulations and amendments (S.I. 291 of 1985 onwards): Prosecute those who do not protect wild birds, their nests or eggs	Poor Ecology	33
EC (Natural Habitats) Regulations 1997- 2005	Poor Ecology	15
EC (Natural Habitats) Regulations 1997- 2005: Assess effects of a proposed development on a protected site before granting planning permission	Poor Ecology	3
EC (Natural Habitats) Regulations 1997- 2005: Determine priority species (flora and fauna) for protection	Poor Ecology	2
EC (Natural Habitats) Regulations 1997- 2005: Identify sites of community importance	Poor Ecology	33
EC (Natural Habitats) Regulations 1997- 2005: Manage, conserve, restore or protect sites	Poor Ecology	33
EC (Natural Habitats) Regulations 1997- 2005: Reintroduce native species; license introduction of non native species	Poor Ecology	3
EC (Natural Habitats) Regulations 1997- 2005: Survey conservation status of the natural habitats and species	Poor Ecology	33
Fisheries Act 1959 - 1981	Poor Ecology	4
Fisheries Act 1959 - 1981: Prohibit works in river channels during fisheries close season.	Poor Ecology	1
Fresh Water Pearl Mussel Regulations	Poor Ecology	2
The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006)	Poor Ecology	1
The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Determine causes of non compliance and corrective actions	Poor Ecology	4
The Quality of Shellfish Waters Regulation Regulations, 2006 (S.I. 268 of 2006): Test Shellfish water compliance to standards defined in regulations	Poor Ecology	6
EC (Aerial Fertilisation) (Forestry) Regulations 2006 and amendment 2007	Forestry	6
Forest Service - Protocol on acid sensitive areas	Forestry	2
Implement Forestry and Water Quality Guidelines	Forestry	9
Update Forest Service Guidance document on new EQS standards, Aerial Fertilisation Regulations, Updated Acidification protocol.	Forestry	5
Update protocol on acid sensitive areas based on acid sensitive areas map and research	Forestry	2
Develop guidance on suites of measures for different habitats	To Protect High Status Waters	15
For sites not at Favourable conservation Status Set targets and timeframe for achieving status	To Protect High Status Waters	29
NPWS to develop and maintain a Webserver based register of designated sites accessible to LA, State Agencies, Stakeholders	To Protect High Status Waters	1
NPWS to develop Guidance documents for Article 6 Assessments	To Protect High Status Waters	1
EPA (Licensing) Regulations, 1994 & 2004	Industrial Sources	21
EPA (Licensing) Regulations, 1994 & 2004: Grant and refuse IPPC licences subject to set-limits to reduce pollution effects	Industrial Sources	10
EPA (Licensing) Regulations, 1994 & 2004: Review IPPC licences	Industrial Sources	7

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Measure Name	Source Name	Frequency of Use
EPA (Licensing) Regulations, 1994 & 2004: Upgrade IPPC licensed facilities waste management structures and practices to best available technology	Industrial Sources	5
EPA Waste (Licensing) Regulations, 2004	Industrial Sources	6
EPA Waste (Licensing) Regulations, 2004: Grant and refuse waste licences subject to set-limits to reduce pollution effects	Industrial Sources	2
EPA Waste (Licensing) Regulations, 2004: Review waste licences	Industrial Sources	2
EPA Waste (Licensing) Regulations, 2004: Upgrade waste licensed facilities management structures and practices to best available technology	Industrial Sources	2
DEHLG - Code of Good Practice and Guidelines on the use of Biosolids in Agriculture, 1999	Manure Fertilisers	14
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Appropriate distance from water body to be maintained for location of manure heaps	Manure Fertilisers	14
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Land spreading to be carried out in appropriate manner	Manure Fertilisers	7
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Monitor storage capacity and nutrient management (follow the tables)	Manure Fertilisers	6
EC (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. 101 of 2009): Nutrient management	Manure Fertilisers	78
Evaluate impact of waters discharging from bog and peat lands	Manure Fertilisers	1
Forest Service - Forestry and Aerial Fertilisation Guidelines	Manure Fertilisers	5
Forestry Act 1946 and 1988	Manure Fertilisers	7
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure Fertilisers	5
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Analyse sludge (e.g., heavy metal, pH, etc.)	Manure Fertilisers	2
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Consider impact of sludge on plants, soil, surface water and groundwater quality	Manure Fertilisers	2
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Local Authorities will maintain a sludge register	Manure Fertilisers	2
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict land where sludge can be used	Manure Fertilisers	2
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Restrict the amount of sludge applied to land to 2 tonnes of dry matter per hectare per year	Manure Fertilisers	2
Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001: Supervise the supply and use of sludge in agriculture	Manure Fertilisers	2
Address diffuse silt pollution from green field site development	Intensive Land use	3
Apply Heavily Modified Waterbody Measures (See External Document)	Intensive Land use	30
Assess channelisation & flood embankments using MImAS	Intensive Land use	2
Assess impacts of causeway	Intensive Land use	1
Assess need for barrier removal based on risk and expert judgement	Intensive Land use	2
Assess the effects of coastal defences	Intensive Land use	3
Consider morphology within the current development (SEA, EIA, etc) appraisal process	Intensive Land use	3
Ensure compliance with OPW Environmental Drainage Maintenance Guidance Notes	Intensive Land use	9
Facilitate Fish Migration	Intensive Land use	6
Foreshore Act (1933)	Intensive Land use	3
Foreshore Act (1933): Licence required for any works on the foreshore.	Intensive Land use	3
Freshwater Pearl Mussel Management Plans	Intensive Land use	1
ICZM - Using the RBMP process, continue to include departmental co-operation for TraC water body management.	Intensive Land use	2
Implement Coastal Zone Management policies and recommendations	Intensive Land use	2
Introduce Soft Edges to Inferior Habitats	Intensive Land use	7
Morphology - Physical Modifications Campaign	Intensive Land use	1
OPW - Environmental River Enhancement Programme 2008 -2012	Intensive Land use	3
Preserve and/or restore banks	Intensive Land use	6
Restoration works on intensive land use for Freshwater Morphology	Intensive Land use	1
Review Dredging Practice	Intensive Land use	2
Review of marine departmental responsibilities and legislative coverage of transitional and coastal water bodies.	Intensive Land use	1

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Measure Name	Source Name	Frequency of Use
Use MImAS as a risk assessment tool to assess water body status deterioration related to developments affecting transitional and coastal water bodies	Intensive Land use	2
LA to adopt a common approach to issuance of Section 4 and 16 licences	Local Authority Licenced Discharges	3
Local Government (Water Pollution) Act 1 of 1977 and amendments	Local Authority Licenced Discharges	11
Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 12 of the Local Government (Water Pollution) Acts, 1977 & 1990	Local Authority Licenced Discharges	10
Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 16 of the Local Government (Water Pollution) Acts, 1977 & 1990	Local Authority Licenced Discharges	28
Local Government (Water Pollution) Act 1 of 1977 and amendments: Enforce Section 4 of the Local Government (Water Pollution) Acts, 1977 & 1990 (discharges to water bodies)	Local Authority Licenced Discharges	56
Carry out septic system inspections and upgrades	Onsite Wastewater Treatment Systems	14
Develop septic system management programme	Onsite Wastewater Treatment Systems	11
Enforce Regulations on Septic Systems	Onsite Wastewater Treatment Systems	24
EPA - Code of Practice for Wastewater Treatment Systems for Single Houses	Onsite Wastewater Treatment Systems	6
Increase public awareness	Onsite Wastewater Treatment Systems	4
LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Onsite Wastewater Treatment Systems	6
LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Onsite Wastewater Treatment Systems	114
OSWTS risk matrices to be integrated into Development Plans and Local Area Plans	Onsite Wastewater Treatment Systems	6
Treatment Plant Tie-ins	Onsite Wastewater Treatment Systems	2
Diffuse Runoff (Urban) - Gullies Management	Urban Diffuse Pollution	23
Diffuse Runoff (Urban) - Implement SUDS (Including Green Roofs Guidance)	Urban Diffuse Pollution	30
Diffuse Runoff (Urban) - Storm sewers separation and qualitative improvement	Urban Diffuse Pollution	16
Diffuse Runoff (Urban) - Street Cleaning Programme	Urban Diffuse Pollution	22
Assess CSO and Water Quality Impact from Urban Pressures	Wastewater Treatment Plants	12
Assess risk groundwater pollution when designing and constructing SUDS alternatives	Wastewater Treatment Plants	83
Avoid sewer systems in Inner Source Protection Zones	Wastewater Treatment Plants	26
Carry out groundwater vulnerability mapping during geotechnical investigations of new infrastructure, including sewer pipeline routes; submit information to local authorities and GSI.	Wastewater Treatment Plants	109
Collection system - Network management & operations programme	Wastewater Treatment Plants	17
Collection System - Upgrades and rehabilitation	Wastewater Treatment Plants	28
CSO - Implement FOGG Regulations	Wastewater Treatment Plants	11
CSOs to comply with GDSDS recommendations	Wastewater Treatment Plants	5
Implement Community Digestors for Alternative Energy	Wastewater Treatment Plants	33
Implement Fats, Oils and Grease Programme	Wastewater Treatment Plants	9
Implement SUDS	Wastewater Treatment Plants	1
Improve Removal of certain parameters at WWTP	Wastewater Treatment Plants	1
Introduce design and construction codes for areas of extreme groundwater vulnerability	Wastewater Treatment Plants	69
Investigate and eliminate misconnections	Wastewater Treatment Plants	14
LA to adopt common approach for analysis and reporting of water/effluent samples at WWTP	Wastewater Treatment Plants	1
PMS should be implemented and audited at all WWTPs	Wastewater Treatment Plants	1
Sewerage Schemes - Prioritise construction supervision for areas of extreme groundwater vulnerability	Wastewater Treatment Plants	69
Tertiary Treatment	Wastewater Treatment Plants	8
Upgrade WWTW <2000 PE	Wastewater Treatment Plants	5
Upgrade WWTW and Collecting Systems <2000 PE	Wastewater Treatment Plants	15
Urban Waste Water Treatment Regulations, 2001 - 2004	Wastewater Treatment Plants	8

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Measure Name	Source Name	Frequency of Use
Urban Waste Water Treatment Regulations, 2001 - 2004: Choose the point of discharge to minimise the adverse effects on the environment	Wastewater Treatment Plants	5
Urban Waste Water Treatment Regulations, 2001 - 2004: Develop collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	Wastewater Treatment Plants	18
Urban Waste Water Treatment Regulations, 2001 - 2004: Industrial waste water entering a collecting system and UWW treatment plants shall be pre-treated if necessary to avoid any damage to the process	Wastewater Treatment Plants	4
Urban Waste Water Treatment Regulations, 2001 - 2004: Monitor the discharge from urban wastewater treatment plants and check the quality compliance with urban wastewater treatment legislation	Wastewater Treatment Plants	9
Urban Waste Water Treatment Regulations, 2001 - 2004: Treatment plant to be designed, constructed, operated and maintained to ensure satisfactory performance under all normal local climatic conditions.	Wastewater Treatment Plants	17
Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 1 mg/l or ≥ 80% TN reduction for p.e's >100,000 discharging to sensitive waters (unless no eutrophication potential)	Wastewater Treatment Plants	2
Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 15 mg/l or ≥ 70% TN reduction for p.e's >10,000 and discharging to sensitive waters (unless no eutrophication potential)	Wastewater Treatment Plants	1
Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to 2 mg/l or ≥ 80% TP reduction for p.e's >10,000 discharging to sensitive waters (unless no eutrophication potential)	Wastewater Treatment Plants	3
Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e.'s >10,000 discharging to coastal waters	Wastewater Treatment Plants	4
Urban Waste Water Treatment Regulations, 2001 - 2004: Upgrade domestic WWTWs to secondary treatment for p.e's >2,000 discharging to rivers, lakes, & estuaries	Wastewater Treatment Plants	9
Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	Wastewater Treatment Plants	22
Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): Certify all waste water discharges less than 500 PE.	Wastewater Treatment Plants	8
Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007): License all waste water discharges of greater than 500 PE	Wastewater Treatment Plants	2
Water Services Act 2007	Wastewater Treatment Plants	18
Water Services Act 2007: Develop and implement Urban Water Services Strategic Plans	Wastewater Treatment Plants	10
Well construction practices/requirements	Wastewater Treatment Plants	7

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Appendix E - Plans and Programmes

Article 13(4) of the Water Framework Directive requests a register of any more detailed programmes and management plans for the river basin district dealing with particular sub-basins, sectors, issues or water types, together with a summary of their content. Up to 300 plans and programmes were identified as listed in the table below. This Appendix has been provided by the Shannon River Basin District Project.

Table E1: Eastern River Basin District – Land Use and Spatial Planning Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
National Spatial Strategy for Ireland, 2002 to 2020	2020	The Planning and Development Act, 2000 (S.I. No. 30 of 2000) – not sure about this	DEHLG – lead Regional & Local Authorities - support	20 year strategy Strategy to achieve a better balance of social, economic and physical development across Ireland
National Development Plan, 2007 to 2013	2010	EC Structural Funds Regulation, 1994 (3193 of 1994)	Department of Finance, other government departments and agencies	6 year plan Plan to improve the quality of life for everybody by investing in infrastructure, people, industry and enterprise and regional development
Regional				
Greater Dublin Regional Planning Guidelines, 2004 to 2016	2010	The Planning and Development Act, 2000 (S.I. No. 30 of 2000)	West Regional Planning Authority	12 years with review every 6 years Strategic planning framework for the development of the region and for inter-regional cooperation. Implements the NSS.
Border Regional Planning Guidelines, 2004 to 2020	2010	The Planning and Development Act, 2000 (S.I. No. 30 of 2000)	Border Regional Planning Authority	16 years with review every 6 years Strategic planning framework for the development of the region and for inter-regional cooperation. Implements the NSS.
Midlands Regional Planning Guidelines, 2004 to 2020	2010	The Planning and Development Act, 2000 (S.I. No. 30 of 2000)	Midlands Regional Authority	16 years with review every 6 years Strategic planning framework for the development of the region and for inter-regional cooperation. Implements the NSS.
Local				
Cavan County Development Plan, 2003 to 2009	2007	The Planning and Development Acts, 1963 to 2000 (S.I. No. 30 of 2000)	Cavan County Council	All Local Development Plans are 6 years with review after 4 years Overall strategy for the proper planning and sustainable development of the area
Dun Laoghaire/Rathdown County Development Plan, 2004 to 2010	2008		Dun Laoghaire/ Rathdown County Council	
Fingal County Development Plan, 2005 to 2011	2009		Fingal County Council	
Kildare County Development Plan, 2005 to 2011	2009		KildareCounty Council	
Louth County Development Plan, 2003 to 2009	2007		Louth County Council	
Meath County Development Plan, 2007 to 2013	2011		Meath County Council	
Offaly County Development Plan, 2003 to 2009	2007		Offaly County Council	
South Dublin County Development Plan, 2004 to 2010	2008		South Dublin County Council	
Westmeath County Development Plan, 2002 to 2008	2006		Westmeath County Council	
Wexford County Development Plan, 2007 to 2013	2011		Wexford County Council	
Wicklow County Development Plan, 2004 to 2010	2008		Wicklow County Council	

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Dublin City Development Plan, 2005 to 2011	2009		Dublin City Council	
Drogheda Development Plan, 2005 to 2011	2009		Louth County Council	
Arklow Environs Local Area Plan, 2005 to 2011	2009		Wicklow County Council	
Bray Development Plan, 2005 to 2011	2009		Wicklow County Council	
Kells Local Area Plan, 2007 to 2013	2011		Meath County Council	
Naas Town Development Plan, 2005 to 2011	2009		Kildare County Council	
Navan Local Area Plan, 2004 to 2010	2008		Meath County Council	
Trim Development Plan, 2002 to 2008	2008		Meath County Council	
Wicklow Town Development Plan, 2007 to 2013	2011		Wicklow County Council	
Mullagh Local Area Plan, 2006 to 2009	2011		Cavan County Council	
Woodbrook/Shanganagh Local Area Plan, 2006 to 2010	2008		Dunlaoghaire Rathdown County Council	
Kiltiernan/Glenamuck Local Area Plan, 2007 to 2010	2008		Dunlaoghaire Rathdown County Council	
Stillorgan Local Area Plan, 2007 to 2010	2008		Dunlaoghaire Rathdown County Council	
Dublin Airport Local Area Plan, 2006 to 2012	2010		Fingal County Council	
North West Balbriggan Local Area Plan,2005 to 2011	2009		Fingal County Council	
South East Balbriggan Local Area Plan, 2006 to 2012	2010		Fingal County Council	
North Ballymun Local Area Plan, 2005 to 2011	2009		Fingal County Council	
Cappagh Road Local Area Plan, 2005 to 2011	2009		Fingal County Council	
Donabate Local Area Plan, 2006 to 2012	2010		Fingal County Council	
Hacketstown Local Area Plan, 2002 to 2010	2008		Fingal County Council	
Hollywoodrath Local Area Plan, 2006 to 2012	2010		Fingal County Council	
Kinsealy Local Area Plan, 2006 to 2012	2010		Fingal County Council	
Portmarnock Local Area Plan, 2006 to 2012	2010		Fingal County Council	
Stephenstown, Clogheder & Clonard Local Area Plan, 2007 to 2013	2011		Fingal County Council	
Athgarvan Local Area Plan, 2007 to 2013	2011		Kildare County Council	
Newbridge Local Area Plan, 2003 to 2009	2007		Kildare County Council	
Celbridge Local Area Plan, 2002 to 2008	2006		Kildare County Council	
Kilcullen Local Area Plan, 2001 to 2007	2005		Kildare County Council	
Leixlip Local Area Plan, 2002 to 2008	2006		Kildare County Council	
Sallins Local Area plan, 2001 to 2007	2005		Kildare County Council	
Straffan Local Area Plan, 2002 to 2008	2006		Kildare County Council	
Clane Local Area Plan, 2002 to 2008	2006		Kildare County Council	

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Kilcock Local Area Plan, 2002 to 2008	2009		Kildare County Council	
Kill Development Plan 2002 to 2008	2006		Kildare County Council	
Maynooth Development Plan, 2002 to 2008	2006		Kildare County Council	
Drogheda Docklands Area Plan, 2007 to 2011	2009		Louth County Council	
Collon Local Area Plan, 2002 to 2008	2006		Louth County Council	
Tullyallen Local Area Plan, 2003 to 2009	2007		Louth County Council	
North Drogheda Environs Local Area Plan, 2004 to 2010	2008		Louth County Council	
Effernock Local Area Plan, 2003 to 2009	2007		Meath County Council	
Trim Town Centre Local Area Plan, Local Area Plan, 2004 to 2008	2006		Meath County Council	
East Meath Local Area Plan, 2005 to 2013	2011		Meath County Council	
Kells Backlands Local Area Plan, 2006 to 2013	2011		Meath County Council	
Navan Local Area Plan 3, 2006 to 2011	2009		Meath County Council	
Navan Local Area Plan 4, 2007 to 2017	2015		Meath County Council	
Edenderry Town Development Plan 2003 to 2009	2007		Offaly County Council	
Rathcoole Local Area Plan, 2002 to 2008	2006		South Dublin County Council	
Newcastle – Lyons Local Area Plan, 2003 to 2009	2007		South Dublin County Council	
Tallaght Town Centre Local Area Plan, 2006 to 2012	2010		South Dublin County Council	
Liffey Valley Town Centre Local Area Plan, 2008 to 2014	2012		South Dublin County Council	
Clonburris Local Area Plan, 2008 to 2014	2012		South Dublin County Council	
Clonmellon Village Local Area Plan, 2005 to 2010	2008		Westmeath County Council	
Delvin Village Local Area Plan, 2002 to 2008	2008		Westmeath County Council	
Killucan/Rathwire Village Local Area Plan, 2004 to 2010	2008		Westmeath County Council	
Kinnegad Village Local Area Plan, 2002 to 2008	2006		Westmeath County Council	
Rochfortbridge Village Local Area Plan, 2002 to 2008	2006		Westmeath County Council	
Arklow Environs Local Area Plan, 2006 to 2012	2010		Wicklow County Council	
Ashford Town Local Area Plan, 2001 to 2007	2005		Wicklow County Council	
Enniskerry Local Area Plan, 2002 to 2008	2006		Wicklow County Council	
Greystones/Delgany Local Area Plan, 2006 to 2012	2010		Wicklow County Council	
Newtownmountkennedy Local Area Plan, 2002 to 2008	2006		Wicklow County Council	
Kilcoole Local Area Plan, 2002 to 2008	2006		Wicklow County Council	
Rathdrum Local Area Plan, 2006 to 2012	2006		Wicklow County Council	
Wicklow Environs Local Area Plan, 2001 to 2007	2006		Wicklow County Council	
Dublin Docklands Area Master Plan, 2003 to 2008	2008		Dublin Docklands Development Authority	

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Table E2: Eastern River Basin District – Conservation Measures Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
2nd National Biodiversity Plan, 2008 to 2012	2012	Obligation under the Convention on Biological Diversity, which Ireland ratified in 1996.	NPWS (DEHLG)	4 year plan Considers the work programmes of the Convention on Biological Diversity and the European Union Action Plan and develops a national work programme to achieve their implementation.
Forest Service Biodiversity Strategy	Not Specified	None	Forest Service	Open-ended strategy Strategy for conserving and enhancing biodiversity in forests using various good practice instruments.
Rural Environment Protection Scheme	Not Specified	None	Department of Agriculture, Fisheries & Food	Open-ended strategy Scheme designed to reward Farmers for carrying our their farming activities in an environmentally friendly manner and to bring about environmental improvement on existing farms
Local				
Wicklow Mountains National Park Management Plan, 2005 to 2009	2009	European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997) & Amendments Regulations in 1998 and 2005	DEHLG - NPWS	4 year plan Includes descriptive information about a site and a management framework section which outlines objectives and strategies.
Magherabeg Dunes cSAC 1766 Conservation Plan, 2005 to 2010	2010	European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997) & Amendments Regulations in 1998 and 2005	DEHLG - NPWS	5 year plan Includes descriptive information about a site and a management framework section which outlines objectives and strategies.
Dublin City Council Biodiversity Action Plan, 2008 to 2012	2012	National Biodiversity Plan	Dublin City Council	4 year plan Includes descriptive information about a site and a management framework section which outlines objectives and strategies.
Louth Biodiversity Action Plan, 2008 to 2013 Draft	2013	National Biodiversity Plan	Louth County Council	4 year plan Aims to contribute to the conservation and enhancement of natural heritage in Waterford. Identifies existing actions and proposes new actions.

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Table E3: Eastern River Basin District – Water Services Strategic Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Local				
Water Services Strategic Plan	as soon as regulations published	Water Services Act, 2007 (S.I. No. 30 of 2007) Enabling Regulations, early 2009	Water Services Authorities	6 year plan, under development Relates to the provision of sufficient water services for domestic and non-domestic requirements while protecting human health and the environment and supporting proper planning and sustainable development

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Table E4: Eastern River Basin District – Pollution Reduction Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
IPPC licensing regime	Not specified	Environmental Protection Agency Act, 1992 Protection of the Environment Act, 2003 EPA Acts 1992 to 2007	EPA	Open-ended The EPA license certain large-scale industrial and agriculture activities through IPPC licenses. IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently.
Local Authority Licensing	Not specified	Local Government (Water Pollution) Act, 1977	Local Authorities	Open-ended Local Authorities license small-scale commercial and industrial discharges to sewer systems and waters under the Water Pollution Acts through the Local Authority Licenensing system.
The National Control Plan	Not specified	S.I. No. 882 of 2004	DAFF Food Safety Authority of Ireland	5 year plan Plan to ensure that feed and food is safe and wholesome, includes control of plant protection products.
Agri-Vision Action Plan 2015	Not specified	None	DAFF	Open-ended strategy Plan to develop new agri-environmental scheme that pro-actively enhances environment and biodiversity
Towards 2016	Not specified	None	DAFF DEHLG	Open-ended strategy Sets out agricultural objectives and way forward for the coming years and how agricultural sector will enhance the environment
CAP Rural Development Programme 2007-2013	Not specified	EC Council Regulation 1698/2005	DAFF DEHLG	7 year plan Plan to Improve the competitiveness of the agriculture sector, the environment and the countryside and the quality of life in rural areas and encouraging diversification of economic activity.
Nitrates Action Plan 2006-2010	2009	Nitrates Directive (91/676/EEC) S.I. No. 378 of 2006	DAFF DEHLG	4 year plan Sets out the practices for the protection of waters against pollution caused by nitrates from agricultural sources.
Groundwater Protection Scheme	Not specified	Local Government (Water Pollution) Act, 1977 and 1990	DEHLG EPA GSI	Open-ended Provides guidelines for the planning and licensing authoritiesin carrying out their functions, and a framework to assist in decision-making on the location,nature and control of developments and activities in order to protect groundwater
Regional				
Bord na Móna Cutaway Bog Rehabilitation,2002	Not specified	Environmental Protection Agency Act, 1992 Protection of the Environment Act, 2003 EPA Acts 1992 to 2007	EPA Bord na Móna	Duration not specified Management guidelines for the planning and implementation of cutaway bog rehabilitation in accordance with condition 10 of IPC Licences Nos. 500-507
Local				
Cavan County Council Water Pollution (Agricultural) Bye-Laws, 2000.	Not specified	Local Government (Water Pollution) (Amendment) Act, 1990. Local Government Act, 1994 (Bye-Laws) Regulations, 1999.	Cavan County Council	Duration not specified Bye-laws to address key aspects of agricultural practice in affected areas.
Westmeath County Council Water Pollution (Agricultural) Bye Laws, 2000	Not specified	Local Government (Water Pollution) (Amendment) Act, 1990. Local Government Act, 1994 (Bye-Laws) Regulations, 1999.	Westmeath County Council	Duration not specified Bye-laws to address key aspects of agricultural practice in affected areas.

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Cavan County Council Water Pollution (Wastewater Treatment Systems for Single Houses) Bye-Laws, 2004	Not specified	Local Government (Water Pollution) (Amendment) Act, 1990. Local Government Act, 1994 (Bye-Laws) Regulations, 1999.	Cavan County Council	Duration not specified Bye-laws to control the design, operation and maintenance of wastewater treatment systems for single houses.
Carlingford Lough, Co. Louth Regulation 6 (Shellfish) Action Programme	Reviewed every 6 months	European Communities (Quality of Shellfish Waters) Regulations, 2006 (S.I. No. 268 of 2006).	Minister for Communications, Marine and Natural Resources, Bord Iascaigh Mhara and the Marine Institute	Duration not specified The action programme describes the shellfish area catchment, ther pressures and risks in the area and sets out the actions proposed to alleviate the risks.
Louth Action Programme for the Ardee, 2005	Not specified	European Communities (Drinking Water) Regulations, 2000	Louth County Council	Duration not specified Sets out the actions to protect the drinking water from the Ardee water treatment plant
Louth Action Programme for the Omeath, 2006	Not specified	European Communities (Drinking Water) Regulations, 2000	Louth County Council	Duration not specified Sets out the actions to protect the drinking water from the Omeath water treatment plant
Louth Action Programme for the Staleen, 2006	Not specified	European Communities (Drinking Water) Regulations, 2000	Louth County Council	Duration not specified Sets out the actions to protect the drinking water from the Staleen water treatment plant

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Table E5: Eastern River Basin District – Sludge Management Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
Sludge Management Plans: A Guide To Their Preparation and Implementation, 1998	Not Specified	Waste Management Act, 1996	DEHLG	Open-ended strategy Sets out the protocol for Local Authoriteis preparation of sludge management plans
Strategy Study on Options for the Treatment and Disposal of Sewage Sludge In Ireland, 1993	Not Specified	Waste Management Act, 1996	DEHLG	Open-ended strategy Sets out options for treatment for sludge arising from municipal wastewater.
Local				
County Cavan Sludge Management Plan	Not specified	Waste Management Act, 1996	Cavan County Council	Duration not specified Strategy for the management of non-hazardous sludges generated in the area.
Dun Laoghaire/Rathdown Sludge Management Plan	Not specified		Cork County Council	
Fingal Sludge Management Plan, 2002	Not specified		Dun Laoghaire/ Rathdown County Council	
County Kildare Sludge Management Plan, 2000	Reviewed every 5 years		Kildare County Council	
County Louth Sludge Management Plan	Not specified		Cork County Council	
County Meath Sludge Management Plan	Not specified		Louth County Council	
County Offaly Sludge Management Plan, 2001 to 2021	Not specified		Offaly County Council	

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
South Dublin Sludge Management Plan	Not specified		South Dublin County Council	
County Westmeath Sludge Management Plan	Not specified		Westmeath County Council	
County Wexford Sludge Management Plan	Not specified		Wexford County Council	
County Wicklow Sludge Management Plan	Not specified		Wicklow County Council	

Table E6: Eastern River Basin District – Major Accident and Emergency Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
A Framework for Major Emergency Management	Review Annually	None	DEHLG	Duration not specified. A Framework enabling An Garda Síochána, the Health Service Executive and Local Authorities to prepare for and make a co-ordinated response to major emergencies resulting from events such as fires, transport accidents, hazardous substance incidents and severe weather.
Preparing for Major Emergencies Handbook	Not specified	None	Office of Emergency Planning	Duration not specified. Handbook provides an introduction to comprehensive information on the Government's emergency planning.
National Emergency Plan for Nuclear Accidents, 2005	Not specified	SI 125 of 2000, Radiological Protection Act, 1991 (Ionising Radiation)	Department of Environment, Heritage and Local Government.	Duration not specified Provides a framework for dealing with a nuclear emergency and to ensure that all State resources are distributed to good effect and that gaps in the response arrangements are not allowed to Develop.
Public Health Emergency Plan	Not specified	None	CEO of the Health Service Executive	Duration not specified Prepared as a generic plan to facilitate all health service providers in developing and reviewing their plans for public health emergencies.
Regional				
Midland Region Major Emergency Plan, 1996	Reviewed Annually (Sept)	None	Midland Region Major Emergency Planning Group Local Authorities An Garda Siochana HSE	Duration not specified .Appraised & updated annually. Guidance for personnel and organisations who may be involved in a major emergency situation, with the aim of providing a basis for standard procedures and coordinated effort.
Local				
Offaly County Council Major Emergency Plan *	Annually	None	Offaly County Council, An Garda Siochana, Health Service Executive	Duration not specified To outline and co-ordinate procedures to be followed and functions to be undertaken by the council and emergency services responding to an emergency.
Cavan County Council Major Emergency Plan *	Annually		Cavan County Council, An Garda Siochana, Health Service Executive	

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Dublin City Council Major Emergency Plan*	Annually		Dublin City Council, An Garda Siochana, Health Service Executive	
Dun Laoghaire/ Rathdown County Council Major Emergency Plan*	Annually		Dun Laoghaire/ Rathdown County Council, An Garda Siochana, Health Service Executive	
Fingal County Council Major Emergency Plan*	Annually	None	Fingal County Council, An Garda Siochana, Health Service Executive	Duration not specified To outline and co-ordinate procedures to be followed and functions to be undertaken by the council and emergency services responding to an emergency.
Kildare County Council Major Emergency Plan*	Annually		Kildare County Council, An Garda Siochana, Health Service Executive	
Louth County Council Major Emergency Plan*	Annually		Louth County Council, An Garda Siochana, Health Service Executive	
Westmeath County Council Major Emergency Plan*	Annually		Laois, Longford, Offaly, Westmeath County Councils, An Garda Siochana, Health Service Executive	
Wexford County Council Major Emergency Plan*	Annually	European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2000.	Wexford County Council, An Garda Siochana, Health Service Executive	December 2005 – until updated To outline and co-ordinate procedures to be followed and functions to be undertaken by the council and emergency services responding to an emergency.
Wicklow County Council Major Emergency Plan*	Annually	None	Wicklow County Council, An Garda Siochana, Health Service Executive	2006 until revised To outline and co-ordinate procedures to be followed and functions to be undertaken by the council and emergency services responding to an emergency.
Dublin Port Major Marine Incident Emergency Plan & Dublin Port Emergency Procedures, 2002	Not specified	Sea Pollution (Amendment) Act, 1999	Dublin Port Harbour Master	Duration not specified Sets out an emergency control organisation structure which will enable Dublin Port to respond rapidly and efficiently to any emergency
Dublin Port Emergency Response Plan, 2008	Not specified		Dublin Port Harbour Master	
Louth Draft Coastal Pollution Response Plan, 2007	Not specified		Louth County Council	Duration not specified The plan is designed to initiate an appropriate oil spill response in the event of an incident.
* all Local Authority Major Emergency Pans were put in place on the 30th September 2008. Major Emergency Plans are updated annually.				
Upper Tier Seveso Sites – all with Internal Emergency Plans				
Albion (Univar Ireland Ltd c/o Harry Crosbie Ltd) Tolka Quay Rd. Dublin Port.	Not requested	European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	Local competent authority and emergency services	Not requested
Calor Gas Teo. Tolka Quay, Alexander Rd., Dublin				
Chemco (Irl) Ltd., T/A Chemsource Unit 2, Stadium Business Park, Ballycoolin Rd., Cappagh, Dublin 11.				

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Contract and General Warehousing Ltd. Westpoint Business Park, Navan Rd. Mulhuddart Esso Ireland Ltd., Dublin Joint Fuels Terminal, Alexandra Rd. D 1				
Flogas Irl. Ltd Marsh Rd. Drogheda, Co. Louth				
Irish Flavours and Fragrances Ltd Industrial Estate, Drogheda, Co. Louth				
Irish Industrial Explosives Ltd Clonagh, Enfield, Co Meath				
Indaver Ireland Tolka Quay Road, Dublin				
Schering-Plough (Avondale) Co. Rathdrum, Co. Wicklow.				
Tedcastles Oil Products (Yard 2) Promenade Rd, Dublin 3				
Mallinckrodt Medical Imaging - Ireland T/A Tyco Healthcare Dublin Damastown, Mulhuddart, D15	Not requested	European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	Local competent authority and emergency services	Not requested
Lower Tier Seveso Sites – all with internal emergency plans.				
Arch Chemicals B.V Watery Lane, Sword, Dublin	Not requested	European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	The operator & the HSA	Not requested
BOC Gases Ireland Ltd. Bluebell Ind. Est. Dublin 12				
Dublin Bay Power Pigeon House Road, Ringsend, Dublin 4				
ESB Poolbeg Power Station Pigeon House Road, Ringsend, Dublin 4				
ESB North Wall Generating Station Alexander Rd, Dublin 1				
ESB - Rhode Generating Station Rhode, Co. Offaly				
Esso Ireland Ltd. Dublin Airport Joint Storage Facility, Corballis Park, Dublin Airport.				
Helsinn Chemicals Damastown, Mulhuddart, D15				
Iarnrod Eireann Inchicore Inchicore, Dublin 8	Not requested	European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. 74 of 2006)	The operator & the HSA	Not requested
Iarnrod Eireann Dublin Port Alexander Rd, DublinPort				
Intel Ireland Ltd. Collinstown Industrial Park, Leixlip, Co. Kildare				
Irish Distillers Ltd. Robinhood Road,Clondalkin,D22				
Topaz Energy Ltd. (Irish Shell) Site 1, Alexandra Road, Dublin 1				

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Topaz Energy Ltd. (Irish Shell) Site 2, Alexandra Road, Dublin 1				
Topaz Energy Ltd. (Irish Shell) Site 3, Alexandra Road, Dublin 1				
Sigma Aldrich Fine Chemicals Pharma Arklow Vale road, Arklow, Co. Wicklow				
Marsh Oil Products Ltd Marsh Road, Drogheda, Co. Louth				
Statoil Ireland Ltd Yard 1 Leeside Oil Terminal, Promenade Road, Dublin Port Dublin 3				
Statoil Ireland Ltd Yard 2 Leeside Oil Terminal, Promenade Road, Dublin Port Dublin 3				
Bristol Myers Squibb Cruiserath Cruiserath Rd. Mulhuddart, D15				
Swords Laboratories Watery Lane, Swords, Dublin				
Tedcastles Oil Products (Yard 1) Promenade Rd, Dublin 3				
Tibbett & Britten Group (Ireland) Ltd Robinhood Road,Clondalkin,D22				
Astellas Ireland Co. Ltd Damastown, Mulhuddart, D 15				
Gensys Power Ltd. T/A Huntstown Power Station Huntstown Quarry, Finglas, Dublin 11				
Grassland Fertilizers Limited The Pound Road, Slane, Co. Meath				

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Table E7: Eastern River Basin District – Forest Management Plans

Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
National				
Growing for the Future – A Strategic Plan for the Forest Sector in Ireland	2015	Forestry Act 1946 Sustainable Forest Management	Forest Service	Open-ended strategy Strategic plan for the development of the forestry sector in Ireland
Irish National Forest Standard	Not specified	Forestry Act, 1946, 1956, 1988 Sustainable Forest Management	Forest Service	Open-ended strategy Sets out the framework within which the development and evaluation of sustainable forest management will take place in Ireland.
Code of Best Forest Practice		Forestry Act, 1946, 1956, 1988 Sustainable Forest Management		Open-ended strategy A Code Of Best Forest Practice designed to ensure that forest operations in Ireland are carried out in a way which meets high environmental, social and economic standards.
Native Woodland Scheme	To be determin	Forestry Act, 1946 Sustainable Forest	Forest Service	Open-ended strategy A financial incentives scheme for

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
	ed by the DAFF	Management		conservation and establishment of Native Woodlands.
Forestry and Water Quality Guidelines	Not specified	Forestry Act, 1946 Sustainable Forest Management	Forest Service	Open-ended strategy Sets out guidelines for forest practices to ensure conservation and enhancement of water quality.
Forestry and the Landscape Guidelines				Open-ended strategy Sets out guidelines with the objective of ensuring a positive relationship between the forest and the character of a given landscape, to optimise the aesthetic effect and to minimise the visual effect conflict.
Forest Harvesting and the Environment Guidelines				Open-ended strategy Includes issues relating to: soil conservation; the protection of water quality, archaeological sites, biodiversity and the visual landscape; the maintenance of forest health and productivity.
Forest Biodiversity Guidelines	Not specified	Forestry Act, 1946 Sustainable Forest Management	Forest Service	Open-ended strategy The Forest Biodiversity Guidelines Focus on how best to conserve and enhance biodiversity in Irish forests, through appropriate planning, conservation and management.
Forest and Aerial Fertilisation Guidelines	Not specified	S.I. No. 592 of 2006 and S.I. No. 790 of 2007, European Communities (Aerial Fertilisation) (Forestry)(Amendment) Regulations 2007	Forest Service	Open-ended strategy Sets put the requirements needed for an aerial fertilisation licence to be granted by the Forest Service.
Forestry and the Freshwater Pearl Mussel Requirements Site Assessment And Mitigation Measures	Not specified	Habitats Directive (92/43/EEC) and the Wildlife Acts (1976, amended 2000).	Forest Service	Open-ended strategy Sets out the requirements for forest operations potentially impacting within the catchments of Freshwater Pearl Mussel populations. The Requirements describe a range of measures intended to reduce potential negative impacts on the species arising from forest operations and supplement all other Forest Service Guidelines and regulations in order to assist in the protection and conservation of the Freshwater Pearl Mussel (FPM) and its habitat.
Regional				
Coillte District Strategic Plan - Dublin/Wicklow E1, 2006 to 2010	2010	Sustainable Forest Management	Coillte	5 year plan Longterm vision for 20 years. Describes Coillte's forests in the Dublin/Wicklow District and sets out the long term vision for the management of these forests, sets out the policies and practices and specifies the short-term objectives for the district.
Coillte District Strategic Plan - South East Counties E2, 2006 to 2010				
Coillte District Strategic Plan - Lakelands N3, 2006 to 2010				
Local				
Glendalough Forest Management Plan, 2006 to 2010 (County Wicklow)	Not specified	Sustainable Forest Management	Coillte	5 year plan Describes the forest, catchment, management focus, long-term goals and details the forest operations

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Glenmalure Forest Management Plan, 2006 to 2010 (County Wicklow)				planned for a 5 year period.
Hollywood Forest Management Plan, 2006 to 2010 (County Wicklow)				
Avonmore Forest Management Plan, 2006 to 2010 (County Wicklow)				
Shillelagh Forest Management Plan, 2006 to 2010 (County Wicklow)				
Avondale Forest Management Plan, 2006 to 2010 (County Wicklow)				
Glencree Forest Management Plan, 2006 to 2010 (County Wicklow)				
Roundwood Forest Management Plan, 2006 to 2010 (County Wicklow)				
Glen of Imaal Forest Management Plan, 2006 to 2010 (County Wicklow)				
Glenealy Forest Management Plan, 2006 to 2010 (County Wicklow)				
Aughrim Forest Management Plan, 2006 to 2010 (County Wicklow)				
Blessington Forest Management Plan, 2006 to 2010 (County Wicklow)				
Clonmoyle Forest Management Plan, 2006 to 2010 (County Kildare)				
Rahin Forest Management Plan, 2006 to 2010 (County Kildare)				
Lullymore Forest Management Plan, 2006 to 2010 (County Kildare)				
Brackney Forest Management Plan, 2006 to 2010 (County Kildare)				
Donedea Forest Management Plan, 2006 to 2010 (County Kildare)				
Hortland Forest Management Plan, 2006 to 2010 (County Kildare)				

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Monasterevin Forest Management Plan, 2006 to 2010 (County Kildare)				
Nobber Forest Management Plan, 2006 to 2010 (County Meath)				
Kells Forest Management Plan, 2006 to 2010 (County Meath)				
Navan Forest Management Plan, 2006 to 2010 (County Meath)				
Summerhill Forest Management Plan, 2006 to 2010 (County Meath)				
Dublin South Forest Management Plan, 2006 to 2010 (County Dublin)				
Dundalk Forest Management Plan, 2006 to 2010 (County Louth)				
Drogheda Forest Management Plan, 2006 to 2010 (County Louth)	Not specified	Sustainable Forest Management	Coillte	5 year plan Describes the forest, catchment, management focus, long-term goals and details the forest operations planned for a 5 year period.
Knockbarra Forest Management Plan, 2006 to 2010 (County Offaly)				
Glenafelly Forest Management Plan, 2006 to 2010 (County Offaly)				
Ballydaly Forest Management Plan, 2006 to 2010 (County Offaly)				
Derrycoffey Forest Management Plan, 2006 to 2010 (County Offaly)				
Garyhinch Forest Management Plan, 2006 to 2010 (County Offaly)				
Killeagh Forest Management Plan, 2006 to 2010 (County Offaly)				
Birr Forest Management Plan, 2006 to 2010 (County Offaly)				
Shinrone Forest Management Plan, 2006 to 2010 (County Offaly)				
Castlpollard Forest Management Plan, 2006 to 2010 (County Westmeath)				
Ballynafid Forest Management Plan, 2006 to 2010 (County Westmeath)				
Downs Forest Management Plan, 2006 to 2010 (County Westmeath)				

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Plan Name	Date for Review	Enabling Legislation	Responsible Authorities	Plan Duration and Summary of Contents
Lough Ennell Forest Management Plan, 2006 to 2010 (County Westmeath)				
Ballymore Forest Management Plan, 2006 to 2010 (County Westmeath)				
Macnean East Forest Management Plan, 2006 to 2010 (County Cavan)				
Glangevlin Forest Management Plan, 2006 to 2010 (County Cavan)				
Bawnboy Forest Management Plan, 2006 to 2010 (County Cavan)				
Cavan Forest Management Plan, 2006 to 2010County Cavan)				
Cootehill Forest Management Plan, 2006 to 2010 (County Cavan)				
Baillieboro Forest Management Plan, 2006 to 2010 (County Cavan)				
Dunari Forest Management Plan, 2006 to 2010 (County Cavan)				
Virginia Forest Management Plan, 2006 to 2010 (County Cavan)				
Foxfield Forest Management Plan, 2006 to 2010 (County Cavan)				
Nobber Forest Management Plan, 2006 to 2010 (County Meath)				
Kells Forest Management Plan, 2006 to 2010 (County Meath)				
Navan Forest Management Plan, 2006 to 2010 (County Meath)				

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Table E8: Eastern River Basin District – Arterial Drainage and Flood Relief Schemes

Scheme Name	Arterial Drainage / Flood Relief	RBD
Boyne	Arterial Drainage Scheme	Eastern
Broadmeadow and Ward	Arterial Drainage Scheme	Eastern
Matt	Arterial Drainage Scheme	Eastern
Ryewater	Arterial Drainage Scheme	Eastern
Avoca, Aughrim & Baltinglass, Co Wicklow	Flood Relief Scheme - Completed	Eastern
Duleek (Nanny)	Flood Relief Scheme – Completed	Eastern
Hazelhatch	Flood Relief Scheme – Completed	Eastern
Lyreen-Meadowbrook Rivers, Co. Kildare	Flood Relief Scheme – Completed	Eastern
Morrell River, Co Kildare	Flood Relief Scheme – Completed	Eastern
River Tolka, Dublin City area	Flood Relief Scheme – Completed	Eastern
River Tolka, Meath	Flood Relief Scheme – Completed	Eastern
Arklow, Co. Wicklow	Flood Relief Scheme - In Design / Progress	Eastern
Bray, Co. Wicklow	Flood Relief Scheme - In Design / Progress	Eastern
Mornington, Co. Meath	Flood Relief Scheme - In Design / Progress	Eastern
River Dodder, Dublin	Flood Relief Scheme - In Design / Progress	Eastern
River Tolka, Fingal	Flood Relief Scheme - In Design / Progress	Eastern
Rye Water, Leixlip, Co Kildare	Flood Relief Scheme - In Design / Progress	Eastern
South Docklands, Dublin City	Flood Relief Scheme - In Design / Progress	Eastern
Dublin Flooding Initative (including SAFER and Flood Resilent Cities Project)	In Design / Progress	Eastern
River Liffey Flood Scheme	In Design / Progress	Eastern
Project 2030/2050	In Design / Progress	Eastern

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

Oifig an Aire
Office of the Minister

6 July 2010

John Tierney
Dublin City Council,
Civic Offices,
Wood Quay,
Dublin 8.

Dear Manager,

I am in receipt of the final River Basin Management Plan for the Eastern River Basin District as adopted by the local authorities in that district and submitted by Dublin City Council as the coordinating local authority.

Having considered the Plan, the comments submitted by the relevant public authorities and others and the report prepared by the Environmental Protection Agency, I, John Gormley T.D., Minister for the Environment, Heritage and Local Government, in accordance with the powers conferred on me by Regulations 12(5) and 13(6) of the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003, as amended) hereby serve notice of my amendments to the River Basin Management Plan for the Eastern River Basin District, as set out in the Appendices to this letter.

In accordance with Regulations 12(5) and 13(6) Dublin City Council should send a copy of this notice to the relevant public authorities and should publish the plan incorporating the amendments set out in the appendices to this letter.

Yours sincerely,

John Gormley T.D.
Minister for the Environment, Heritage and Local Government

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An Roinn Comhshaoil, Oidhreachta agus Rialtais Áitiúil, Teach an Chustaim, Baile Átha Cliath 1
Department of the Environment, Heritage and Local Government, Custom House, Dublin 1
Tel: 353 1 888 2000 LoCall: 1890 20 20 21 Fax: 353 1 878 8640 e-Mail: minister@environ.ie Web: www.environ.ie

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APPENDIX 1

- In Section 3.4 of the Plan (titled Current Water Status) insert the following paragraphs after the final paragraph under the heading 'Current Status of Surface Waters', i.e. after the paragraph commencing:' Coastal waters are generally in good condition':

'A fully compliant WFD monitoring programme for transitional and coastal waters will be initiated as a matter of priority and made operational at the latest by December 2011. The classification of all transitional and coastal waters will be completed as soon as EPA deems sufficient monitoring data is available.

To complete an interim classification of transitional and coastal waters, a project, led by the Marine Institute and scheduled for completion in September 2010, is underway. The project aims to identify and process existing data in respect of these waters that can be used to assign status for the reference period 2007-2009, where such information is currently unavailable.'

- Insert a new section, as follows, after Section 7.4 of the Plan (titled Supplementary Measures) and renumber subsequent sections.

Recent legislation supporting the implementation of the programme of measures

Significant progress has been made in recent years in putting the necessary legislation in place to support the implementation of river basin plans and programmes of measures in Ireland. The core requirements of the Water Framework Directive (2000/60/EC) were transposed under the Water Policy Regulations (SI 722 of 2003 as amended). In addition, the Surface Waters Environmental Objectives Regulations (SI 272 of 2009) and the Groundwater Environmental Objectives Regulations (SI 9 of 2010) were made to give effect to the measures needed to achieve surface water and groundwater environmental objectives established in river basin management plans. The Regulations place a legal obligation on public authorities to aim to achieve those objectives in the context of their statutory functions. For example, both sets of Regulations require the relevant authorities to review all pollutant discharge authorisations to take account of the objectives established in river basin plans. These include, inter alia

- licences issued under the Water Pollution Acts
- IPPC licences
- licences issued under the Waster Water Discharge (Authorisation) Regulations 2007
- Certificates of Authorisation under the Waste Management Regulations 2008.

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Other legislation introduced in recent years gives effect to various measures required by the Water Framework Directive. These include:

- The Waste Water Discharge (Authorisation) Regulations (SI 684 of 2007) which establish an authorisation system of local authority wastewater discharges operated by the Environmental Protection Agency.

- The Water Services Act (No. 30 of 2007) which introduces strategic planning in relation to water services provision, strengthening the administrative arrangements for planning the delivery of water services at national and local level. Water Services Strategic Plans prepared by water services authorities in accordance with Section 36 of this Act must take full account of the proper planning and sustainable development of their functional areas including, amongst other things, the provisions of river basin management plans prepared for the relevant area.

- The Bathing Water Quality Regulations (SI 79 of 2008) which transposed the new Bathing Waters Directive (2006/7/EC) establishes a new classification system for bathing water quality and require monitoring and management plans to preserve, protect and improve the quality of bathing waters.

- The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations (SI 296 of 2009) which set legally binding objectives for water quality in rivers, or parts of rivers, inhabited by freshwater pearl mussels (Margaritifera) and designated as a Special Area of Conservation to protect those species. The Regulations also require authorities to take the steps necessary to attain those objectives. They also require the Minister for Environment, Heritage and Local Government, subject to consultations, to prepare a programme of measures for the attainment of the ecological objectives in rivers containing protected populations; and to publish a sub-basin management plan for each relevant river.

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- The Quality of Shellfish Waters Regulations 2006 (SI 268 of 2006) which set water quality requirements, provide for the designation of shellfish growing areas and also for the establishment of pollution reduction programmes for the designated waters in order to support shellfish life and growth. The Regulations were amended in 2009 (SI 55 of 2009 and SI 464 of 2009) to designate an additional fifty shellfish waters. There are now a total of sixty-four shellfish waters, nationally.

- The Good Agricultural Practice for Protection of Waters Regulations (SI 101 of 2009), which provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and include measures aimed at achieving that objective. These regulations revised and replaced previous regulations made in 2006 and 2007 and provided for strengthened enforcement provisions and for better farmyard management.

- Amendments to the Urban Waste Water Treatment Regulations 2001 (SI 48 of 2010) which designate an additional 10 sites as Sensitive Areas. This brings the total number of sites designated nationally to 43

- The European Communities (Control Of Dangerous Substances From Offshore Installations) Regulations 2009 (SI 358 of 2009) which provide for the permitting of discharges of certain dangerous substances from offshore installations into the Irish territorial sea by the Minister for Communications, Energy and Natural Resources. The Regulations also provide for the preparation of a pollution reduction programme by the Minister.

The Planning and Development Bill 2010, due to be enacted in the middle of this year, includes important new provisions in support of the Water Framework Directive. Firstly, the Bill includes a new mandatory objective requiring local authorities to integrate water management with planning policies and objectives in the preparation of their development plan. It specifically requires local authorities to ensure that the development plan supports the promotion of compliance with environmental standards and objectives established under both the Surface Waters and Groundwater Regulations. In order to ensure that both development planning and management are fully compliant with Water Framework Directive objectives, the Department of the Environment, Heritage and Local Government will issue Section 28 guidance to planning authorities on the new Planning Bill and its relationship with the implementation of the RBMPs, after enactment and not later than 2011. This will be supported by regional seminars.

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Secondly, significant new provisions are included in the Bill in relation to the regulation of quarries. The Bill requires each planning authority to identify quarries in its administrative area which, having regard to the dates of implementation of the EIA Directive and the Habitats Directive, respectively, would have required environmental impact assessment or appropriate assessment and which have not had either or both of these assessments, as appropriate. Where the quarries identified commenced operations before the establishment of the planning code in 1964, or since obtained permission and are registered, they will be required to apply for a new consent, known as a "substitute consent" with a remedial EIA. However where the quarry commenced after October 1964 and never obtained planning permission, or failed to register in 2004-2005 under Section 261 of the Act, if required to do so, it will be subject to enforcement action.

Thirdly, the Bill 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.

The legislative framework will be further enhanced to protect and improve water quality through the introduction of strengthened controls on abstractions of water and physical modifications of water bodies. A scoping study on the legislative requirements in this area is underway and work on the drafting of new WFD-compliant regulations to include a modernised system of registration and prior authorisation will commence later in 2010. These regulations will be in place at the latest by end 2012.

New legislation will be proposed to provide for prior consideration of the nature, location and cumulative effects of certain agri-development projects to ensure that the obligations under the Environmental Impact Assessment (EIA) Directive are fully met. This is in response to the November 2008 ECJ ruling that Ireland was over reliant on size thresholds to determine whether an EIA is required in relation to certain agri-developments.

The categories of agri-development include:

- projects for the restructuring of rural land holdings;

- projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes; and

- water management projects for agriculture, including irrigation and land drainage projects.

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The combined result of the above legislative changes will strengthen controls on physical development activities and bring greater coherence between the planning code and the objectives of the river basin management plans.

- In Section 7.5 of the Plan (titled Planned and Potential Measures) insert the following paragraphs after the first paragraph under the heading 'Forestry', i.e. after the paragraph commencing: 'Existing Forestry Activities':

"The Forest Service will review the Forestry and Water Quality Guidelines (published, July 2000) during the first cycle of the river basin management plans to ensure that they reflect the new water quality objectives and standards.

New regulations, to update the European Communities (Environmental Impact Assessment) (Amendment) Regulations, 2001 (S.I. No. 538 of 2001) will be finalised this year. The new regulations will provide for statutory EIA screening for all sub-threshold afforestation and forest road development (but excluding access to public roads which will require planning permission and EIA, if necessary). It will also transpose the Public Participation Directive insofar as it concerns forestry and will introduce penalties for unauthorised development."

- In Section 7.5 of the Plan (titled Planned and Potential Measures) insert the following paragraphs after the first paragraph under the heading 'Agriculture', i.e. after the paragraph commencing: 'The Existing Measures in':

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. Evidence suggests, however, that they will not be sufficient to fully deliver the requirements of the Water Framework Directive in some areas of the country, e.g.:

- The National monitoring programme has indicated a number of patterns of concern. Elevated nitrate concentrations have been consistently observed in the east and southeast of the country in both groundwater and surface waters (EPA, 2008 and 2009). The presence of intensive agricultural practices on free draining soils in the southeast suggests that diffuse agricultural sources are the cause of the elevated nitrate concentrations. Also, the estuaries of the south-east and south of the country, such as the Slaney, Blackwater and Bandon were found to be the most seriously eutrophic. It is suspected that the nitrogen loads from upstream catchments is a significant contributing factor as nitrogen is the main growth-limiting nutrient in seawater.

- The vulnerable nature of the karst limestone aquifers in the west (Galway, Mayo and Roscommon) may explain the elevated phosphate concentrations in groundwater. The groundwater may be contributing to eutrophication in rivers and lakes in these areas. Phosphorus deposited as organic or chemical fertiliser on shallow soils over fissured karst limestone may enter groundwater readily and may then discharge to rivers through springs. Approximately 20% of the area of Ireland consists of karstified limestone.

- Elevated phosphorus levels have also been observed in areas covered by heavy gley soils with high phosphorus content (Index 4) including parts of counties Cavan and Monaghan in the North Western IRBD, and

- In some of the High Status Sites.

The three scenarios described above pose particular difficulties for water quality management and the agricultural sector in the areas mentioned. 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 in those areas and the need for supplementary measures will arise. The nature and extent of such measures will be considered when the findings of the Agricultural Catchments Programme start to become available in 2012. Challenges include slow natural rates of water quality recovery, which may extend up to 20 years, and certain ground conditions (hydrogeological and soil characteristics), which 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.

- In Section 7.5 of the Plan (titled Planned and Potential Measures) insert the following paragraph after the final paragraph under the heading 'Landfills, Mines and Quarries' i.e. after the paragraph commencing: 'Further information including details of the pressures':

The waste management (certification of historic unlicensed waste disposal and recovery activity) Regulations 2008 (SI 524 of 2008) introduced a statutory requirement for local authorities to register all closed landfills, as defined under on the regulations, by the 30th June 2009. 321 sites have been registered throughout the State.

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Almost all initial Tier 1 risk assessments (desk study and site walk over) have been completed for each site. More in-depth Tier 2 risk assessments (on-site monitoring) were applied to 18 sites under a pilot project initiated in October 2009, funded by the Department of Environment, Heritage and Local Government. A second pilot project to support the application of Tier 3 risk assessments (more detailed site investigations) was announced in March 2010.

All sites must be authorised by the EPA. The authorisation, called a Certificate of Authorisation (COA), will specify the appropriate management measures to applied at each site on a case-by-case basis. The EPA will be required to have regard to the environmental quality standards established by the 2009 Surface Waters regulations and the 2010 Groundwater regulations when undertaking its investigations and specifying the appropriate management measures for the purposes of these regulations.

With regard to historic mines an inventory and risk assessment was completed in March 2010 in response to the extractive industries waste Directive (2006/21/EC). The Historic Mine Sites - Inventory and Risk Classification (HMS-IRC) Project was a joint project of the Environmental Protection Agency (EPA) and the Department of Communications, Energy and Natural Resources (DCENR).

The objectives of project were:

- to identify any significant risks to the environment, including human and animal health risks, at these historic mine sites so that these risks ultimately can be managed and the sites made safe.

- to plan for the forthcoming EU Directive 2006/21/EC on the Management of Wastes from the Extractive Industries.

This Directive requires the preparation of an inventory of closed waste facilities in the State by 1st May 2012. The inventory does not include closed stone, sand and gravel quarries, which also require management under the Directive.

A total of 32 mine sites and districts were investigated. Of these 27 mine sites/districts (encompassing 82 individual sites) were scored relative to each other for the purpose of future actions.

The project has resulted in the most comprehensive inventory of historic mines in Ireland that includes a detailed geochemical analysis. It gathers together all the existing information on historic mine sites in Ireland along with significant new information derived from site investigations that will point the way towards future rehabilitation work on mines in Ireland. Rehabilitation works will have regard to the environmental quality standards established by the 2009 Surface Waters regulations and the 2010 Groundwater regulations. "

- In Section 7.5 of the Plan (titled Planned and Potential Measures) insert the following sections before the existing final section ('Ecological Measures').

"National Action Plan for sustainable use of pesticides

The Minister for Agriculture, Fisheries and Food is currently developing a National Action Plan for the sustainable use of pesticides in consultation with other stakeholders. The National Action Plan is a requirement of Directive 2009/128/EC (establishing a framework for Community action to achieve the sustainable use of pesticides) and must be communicated to the Commission and to other Member States by 14 December 2012. The Directive is aimed at ensuring more sustainable use of pesticides, thereby reducing the impact of pesticides on human health and on the environment (including the aquatic environment).

The National Action Plan will include quantitative targets for reducing risks and impacts of pesticide use on the environment. The plan will address areas such as training and certification of pesticide users, distributors and advisors, calibration and certification of pesticide application equipment, and integrated pest management techniques. The plan will have a particular focus on the protection of the aquatic environment and drinking water supplies from potential impacts of pesticide use, and will specifically address the issue of safeguard zones around water abstraction points."

The list of Water Framework Directive Priority Substances is due to be reviewed by 13 January 2011. It has been proposed that sixteen substances including the pesticide cypermethrin will be taken forward for environmental quality standard derivation.

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Aquaculture

"Finfish aquaculture is licensed by the Department of Agriculture, Fisheries and Food under the Fisheries (Amendment) Act, 1997. Licences issued under the Act set limits on the amount of fish that may be grown as well the use of chemicals and medicines at the facility. Licences lay down requirements for monitoring, which include benthic monitoring, water quality monitoring and sea lice monitoring. Benthic monitoring is undertaken each year and includes visual examination of the seabed beneath the cages, as well as analysis for organic carbon and redox.

The European Communities (Control of Dangerous Substances in Aquaculture) Regulations 2008) S.I. No. 466 of 2008) give effect to Directive 2006/11/EC of the European Parliament and of the Council on pollution caused by certain dangerous substances into the aquatic environment in so far as the Directive relates to the protection of waters in the marine environment from aquaculture activities.

The Regulations inter alia require that the level of discharge of an emission set by a licensing authority must be based on the relevant environmental quality standards or objectives set by the Minister for the Environment, Heritage and Local Government in accordance with the Water Framework Directive.

All licences will be reviewed to ensure compliance with the WFD objectives (as laid down in the 2009 Surface Water Regulations) for the receiving waterbody, taking into account the assimilative capacity of receiving waters."

Measures to address the pressures on coastal waters

There are many pressures on the coastal zone ranging from certain fishing practices through to recreational pressures, coastal development, dredging activities and dumping at sea, the extraction of marine aggregates and marine waste and litter. The impact of nutrient enrichment and the process of eutrophication is a major concern in the marine environment; assessment is mainly based on data collected by EPA. National Regulations to implement the EU directives on urban waste water treatment and nitrates from agricultural sources are among the most important measures in place to combat eutrophication. Ireland has applied the EU nitrates directive across its whole territory and has designated the relevant estuarine waters as 'sensitive' where required to do so under the Urban Waste Water Directive. Nutrient reduction is required at the larger urban agglomerations discharging into sensitive waters.

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Work undertaken for the purpose of the WFD Article 5 risk assessments concluded that 35% of transitional water bodies and 18% of coastal water bodies were 'at risk' or 'probably at risk' of failing to meet the WFD objective of good status due to physical alteration. Morphological pressures on the marine environment include coastal defence, built structures (urbanisation and ports and harbours) and dredging.

The proposed amendment to the legislative framework, to regulate physical modifications having an adverse impact on the water environment (Section 5.1), will, inter alia, provide a formal legal mechanism to address these pressures in the marine environment, including providing for the exemption provisions of Article 4(7) of the WFD where this is justified within the rules of the Directive. The proposed regulations will be subject to prior public consultation and will be in place at the latest by end 2012.

Additional measures will be developed to address other pressures in the context of integrated coastal zone management.

Invasive Alien Species

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.

The Department of the Environment, Heritage and Local Government and the Northern Ireland Environment Agency have funded a series of invasive species projects and are implementing the recommendations of the original report. Risk assessments have been undertaken of high risk invasive species and rapid mechanisms, increased stakeholder involvement and best practice guidelines are being developed."

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Peat extraction

Peat excavation can impact on water quality through release of nutrients (particularly phosphorus) contributing to eutrophication and through peat silt entering river systems and impacting on aquatic life. Peat harvesting is one of the pressures contributing to the loss of high quality and protected areas.

All excavation of peat in areas above 50 hectares must be licensed under the IPPC regime and private peat producers falling into this category, that are not already licensed, will be brought into the IPPC system by the EPA.

Below this threshold, planning legislation applies and the Local Government (Planning and Development) (Amendment) Regulations, 2001 reduced the planning threshold for peat extraction from 50 to 10 hectares. The 2001 EIA Regulations reduced the threshold for mandatory EIA from 50 to 30 hectares and this provision will be enforced.

It is proposed to amend the Planning and Development Act to ensure effective enforcement against ongoing unauthorised peat extraction irrespective of when the extraction may have commenced. The Department of the Environment, Heritage and Local Government has funded research into the use of remote sensing to identify and gather evidence in relation to unauthorised peat extraction.

It should be noted that, in respect of discharges from smaller private enterprises, local authorities have the option to licence activity under the Water Pollution Acts and this option should be exercised on a risk-assessment basis, in pursuit of WFD water quality objectives.

- In Section 7.6 of the Plan (titled Plans and Programmes) insert the following paragraph after the final paragraph, i.e. after the paragraph commencing 'At a technical level':

"Sustainable flood management measures such as floodplain reclamation and restoration, have ancillary benefits for climate change, biodiversity and nutrient attenuation and have an important role to play in flood risk management planning."

- Insert new Section as follows after existing Section 7.6 and renumber subsequent sections

7.7 Targeted research to support the Plan

The development of the plan has identified a number of priority areas where research is needed to improve knowledge and to help identify appropriate measures to further protect and improve water quality.

The Agricultural Catchments Programme (ACP), a major research project, is intended to provide a scientific evaluation of the effectiveness of the measures in the National Action Programme under the Good Agricultural Practice Regulations 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. It will initially run for a four-year period (2008 –2011). Six agricultural catchments are being intensively managed and monitored nationally. 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. 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.

As regards other sectors and issues identified, the following projects are either underway or will be commissioned in 2010:

- The 2009 Indicators Report from the EPA noted the serious decline in the number of high quality sites over the past 20 years (see Section 2.2.1 above). A research project to identify the reasons behind this loss and to propose management strategies to address the matter will commence in 2010 with a timeline for delivery early in 2011.

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- SIMBIOSYS, a major 4 year project aimed at assessing the impacts of aquaculture on marine biodiversity, commenced in April 2008 and is due for completion in 2012. The project includes the development of innovative approaches to reduce impacts.

- A scoping desk study aimed at assessing and managing exceedances of specific pollutants, priority & hazardous substances in surface waters and preventing and limiting inputs of hazardous and non-hazardous substances into groundwaters, will be included in a call for proposals in 2010.

- A study to assess disposal options for treated wastewater from single houses in low permeability soil/subsoil settings will be included in a call for proposals in 2010."

- In Section 7.7 of the Plan (titled National Initiatives) insert the following paragraphs after the first paragraph, i.e. after the paragraph commencing 'The Water Framework Directive's approach to water management':

Projected climate impacts have been summarised in a number of recent publications including "A Summary of the State of Knowledge on Climate Change Impacts for Ireland" (EPA), and "Climate Change: Meeting the Challenge of Adaptation', (Irish Academy of Engineering). These provide expert reviews of impacts and recommendations that are relevant to the management of the river basin district.

Flood and drought management both of which will assume greater importance under climate change scenarios, will need to take a sustainable, catchment-based approach. Measures to reconnect wetlands and riparian ecosystems to the river channels may have an important role to play, e.g. in terms of water storage, nutrient attenuation and can also contribute towards providing habitat for native species.

Studies such as those referred to above have highlighted the likely impacts of climate change. As part of the process of developing a national response to the impacts of climate change the EPA will shortly be commencing a project which will bring together all the available information on vulnerabilities on a sector by sector basis. It is anticipated that this material will be available by the end of 2010; this will assist in assessing the risk of climate change and in prioritising adaptive actions.

On foot of a commitment contained in the National Climate Change Strategy, the Department of Environment, Heritage and Local Government is currently in the process of developing a National Climate Change Adaptation Framework. This work is proceeding in parallel with development of the Climate Change Bill which will contain specific provisions in relation to adaptation at national, sectoral and local levels.

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The purpose of the Bill is to provide a statutory basis for key national policies and measures on climate change, including national emission reduction targets for 2020 and 2050 and a Climate Change Committee to advise Government. The Bill will provide the statutory framework within which national policy on transition to a low-carbon, climate resilient and environmentally sustainable society can be pursued as a national priority.

The Heads of Bill and the Adaptation Framework will be published as soon as possible."

- In Section 10.3 of the Plan (titled Alternative Objectives – New Modifications or Developments) add the following text to the end of the penultimate sentence in the first paragraph, i.e. the sentence commencing 'Options have to be examined':

"as required by Regulation 33 of the European Communities Environmental Objectives (Surface Waters) Regulations, S.I. No. 272 of 2009."

o APPENDIX 2

Insert New Chapter - Chapter 13 Implementation of the Plan, and renumber the existing chapters 13 and 14.

13 Implementation of the Plan

The River Basin District is the basic unit of planning, implementation, monitoring and reporting under the Water Framework Directive. The work to date on implementing the Directive has been organised and delivered on this basis, with the coordinating local authorities interacting with other local authorities, EPA and other public authorities and stakeholders. This interaction has posed a challenge and while progress has been made, full coordination has not been achieved. The process of developing the plans has been complex and a significant amount of work has been carried out in monitoring, assessment, classification and setting objectives for water bodies.

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Delivery of the River Basin Plans will be challenging with responsibility for implementation of the plans currently assigned across a range of organisations with no single body having ultimate responsibility. The current administrative systems are fragmented along administrative lines and do not facilitate analysis, identification and implementation of the most cost-effective solutions to manage water quality at river basin level. An RBD can cover the areas of responsibility of a large number of bodies e.g. 18 local authorities in the case of the Shannon RBD. Furthermore, the implementation of many of the measures necessary to achieve the objectives of the plans is the responsibility of national rather then local authorities. Furthermore, it is recognised that improved enforcement of existing legislation is key to successful implementation of the RBMPs.

As we move to the implementation stage, there is a need to strengthen and adjust the existing administrative structures to ensure effective delivery of the plans including enforcement of relevant legislation, across local, regional and national levels. Recommendations in relation to revised structures for water management have been put forward over the past two years by the OECD, Forfás and in the report of the Special Group on Public Service Numbers and Expenditure.

In tandem with the finalisation of the River Basin Management Plans, proposals to introduce water charging are being advanced and a major report on the efficiency of local government is being finalised. It is likely that recommendations for structural change will emerge from both processes.

13.1 Review of arrangements

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. The National Advisory Committee will continue to exercise an oversight role. In addition, the annual review provided for under the Water Services Investment Programme will continue to be guided by the information coming through from the river basin management planning process.

There are clear advantages in strengthening the delivery approach at a RBD level for both infrastructure delivery and implementation of the RBMPs. It is considered that this approach has potential to improve efficiencies and co-operation, build and retain appropriate expertise in identified areas and strengthen the capacity to plan and deliver strategically important projects, and give a broader strategic context for locally delivered programmes. It would also facilitate the collation of key data at a regional level, and support more coordinated and synchronised planning and decision making.

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Against this background, the Department of the 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, inter alia, consideration of the following priority areas: data management; sampling and monitoring; legislative requirements; inspection and enforcement; reporting; public participation. Since one of the key challenges will be the implementation and enforcement of WFD requirements over a wide range of public bodies, it is important that structures resulting from the review must have a clear RBD remit and be provided with the resources and statutory power to oversee and enforce implementation over all relevant public bodies.

13.2 Implementation process

The implementation of the RBMP at waterbody / WMU level will be an extremely complex exercise involving the reviewing and coordination of all water management practices and land-use practices that impact on water, to ensure they are in line with the plan, the relevant regulations (e.g. for surface waters and groundwater) and the Directive. To ensure consistent implementation across all RBDs and WMUs, the following principles must be adhered to when implementation plans are being developed and delivered:

1. All relevant information held by all public bodies shall be made fully available.

2. All information gaps shall be clearly identified with a timeline for completing necessary work to fill gaps in time for the review of the Article 5 characterisation analysis.

3. An appropriate standardised management system shall be developed by 2012 to assess all of the activities that impact water status in the catchment.

4. There shall be a whole-system management approach to implementation that takes account of cumulative impacts, to prevent deterioration in the status of any waterbody unless an Article 4-compliant exemption has been set out.

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5. In the selection of supplementary measures and where appropriate and required by the Directive, a better environmental alternative check must be carried out before an Article 4- compliant exemption is applied.

6. Water Framework Directive and Natura 2000 objectives and requirements shall be addressed in an integrated manner, with implementation measures ensuring compliance with any standards and objectives for Natura 2000 sites by 2015.

7. Where the management system indicates that implementation of basic measures will not avoid deterioration of status or will not restore waterbodies to good status by 2015, a transparent cost effectiveness analysis, incorporating environmental and resources costs and benefits shall be conducted to select the most appropriate supplementary measures to achieve this, unless an Article 4 exemption is set out.

8. Public participation must be integrated into the Plan.

Critical to managing this complex implementation process will be effective data management and interpretation, the streamlining of the regulatory systems that control activities that may impact on waters and ensuring that the regulation of activities is consistent across public authorities.

These issues will be considered during review of water governance and structures mentioned above. However, there are several initiatives currently underway which will facilitate improvements in implementation.

The Environmental Protection Agency and local authorities with support from the Local Government Computer Services Board are developing the Environmental Data Exchange Network (EDEN). The aim of EDEN is to eliminate the difficulties encountered in the sharing and reporting of environmental data sourced from a wide range of environmental datasets, applications, and IT systems in place within the many organisations involved in work related to the Water Framework Directive. In time it is intended that EDEN will be a fully distributed data-sharing network allowing all stakeholders to easily share environmental data. The Environmental Protection Agency and local authorities are also currently investigating web-based catchment management systems that will best facilitate the management, visualisation and interpretation of environmental datasets at catchment level.

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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 include; the authorisation of discharges to water and sewer under Water Pollution Acts and protocols for agricultural inspections and enforcement. Other guidance and training will be prepared as appropriate.

13.3 Public participation

Public participation is a central principle of the Water Framework Directive and a programme for encouraging active involvement and participation of the public in the implementation of the plan will be developed by 2011 and delivered as an integral part of the implementation process for the RBD. One of the mechanisms for ensuring participation from stakeholders has been through the operation of statutory Advisory Councils comprising of representatives of the local authorities (elected members) , representative bodies, NGOs and the social partners.

As part of the review referred to above, the Department of the Environment, Heritage and Local Government, following consultation with relevant stakeholders, will bring forward any necessary proposals for reform of existing structures in order to maximise the effective active involvement of stakeholder bodies in implementation of the plans.

In tandem with this and to support public participation, public awareness initiatives will also be implemented, commencing with a programme of information and awareness-raising to be delivered through The Library Council. The disposal of dangerous household and gardening chemicals will be one of the issues addressed in the awareness campaign. This will include the development of 'ENFOpoints' building on the Minister for the Environment, Heritage and Local Government's plans to enhance the role of libraries in the provision of environmental information services. Access to information relevant to the implementation process will also be made publicly available in readily accessible formats to facilitate fully informed participation of the public."

- References in the Plan to regional and central fisheries board should be amended to 'Inland Fisheries Ireland'.

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Appendix 3

Amend the plan with updates as advised by the Coordinating Local Authority. The submission from the Coordinating Authority indicating amendments is attached.

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Environment, Heritage and Local Government

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river basin district

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comhairle chontae na mí
meath county council

Fingal County Council
Comhairle Contae Fhine Gall

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