



Rialtas na hÉireann
Government of Ireland

Significant Water Management Issues in Ireland

Public Consultation Document

Prepared by the Department of Housing, Planning and Local Government
housing.gov.ie



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Acknowledgments:

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Purpose of this Consultation

This consultation is part of the wider ongoing engagement with stakeholders and advisory groups on the production of the third River Basin Management Plan for Ireland.

Following the publication of the previous two plans, our understanding of the challenges facing our waters has greatly improved. However, there is still more work to be done to meet the requirements of the Water Framework Directive.

This consultation is an important step in this process, providing you with the opportunity to contribute to the development of new approaches to address the significant water management issues in Ireland, by promoting discussion on options around what should be done, and by who, so that the best outcomes are achieved.

By responding, you will be helping to shape the overall management of the water environment. The information gathered will help us prepare for the next cycle of the River Basin Management Plans, by influencing the content of the draft plan due to be published by December 2021.

Responses will also help us to consider the current approach being taken to manage Ireland's waters, with particular reference to climate change and the expanding population.

How this document is structured

In this consultation, we have provided some evidence to support what we feel are the biggest challenges affecting Ireland's waters, and outlined some possible solutions to address these issues. Short updates are also provided in relation to measures currently being implemented as part of the second river basin planning cycle up to 2021.

Throughout this document, you will be directed to other more detailed sources of information, which will allow you the opportunity to explore

each topic in greater detail. However, you are welcome to make a submission based only on the information contained in this document.

How to get involved

Deciding what to do about the significant water management issues is not something that we can do on our own. We need all sectors to play their part, to ensure the most appropriate actions are taken.

In seeking your views on the Significant Water Management Issues and their potential solutions, we have set out a number of specific questions in relation to each of the challenges outlined in Part 4 of this document.

When replying to this consultation, it would be of assistance if you could respond online at www.surveymonkey.com/r/3HGB3HZ. This will allow you to make your comments more effectively, while helping us to gather and summarise responses quickly and accurately. However, if you would like to respond in another way, there is a consultation response template available for download on the consultation section of the Department's website (www.housing.gov.ie). Once completed, this should be emailed to rbmp@housing.gov.ie.

Alternatively, responses can also be made in writing to:

SWMI Consultation
Water Advisory Unit
Department of Housing Planning and Local Government
Custom House
Dublin 1.
D01 W6X0

You do not have to respond to every question in the consultation. If you have a specific area of interest, you are free to respond to just those questions.

What we will do with your response

Responses will inform the development of the third River Basin Management Plan for Ireland. Please note, while we will not publish names of those that have responded, submissions received may be made available on the Department's website. In any event, all submissions received will be subject to the provisions of the Freedom of Information Act and Data Protection legislation. A copy of the Department's Privacy Statement is available at www.housing.gov.ie.

Freedom of Information

All submissions and comments submitted to the Department for this purpose are subject to release under the Freedom of Information (FOI) Act 2014 and the European Communities (Access to Information on the Environment) Regulations 2007- 2014. Submissions are also subject to Data Protection legislation.

Personal, confidential or commercially sensitive information should not be included in your submission and it will be presumed that all information contained in your submission is releasable under the Freedom of Information Act 2014.

What happens next?

This consultation runs from 21st December 2019 to 26th June 2020 and sets out to achieve the following three objectives:

- ▼ Describe the Significant Water Management Issues we need to address
- ▼ Outline potential solutions to these Significant Water Management Issues
- ▼ Giving you the opportunity to influence the approach taken

A summary of the responses received will be published on completion of the consultation process.

Over the next two years the Department will be setting objectives for inclusion in the third River Basin Management Plan Cycle along with the actions required by Government, public bodies, businesses, agriculture, communities and all water users. Details of this process are outlined on the next page.

River Basin Management Planning Cycle

Stage	Date	Purpose
Timetable and Work Programme	January 2019 6 months	“Identify the main steps and milestones towards preparing the next RBMP.” Establishing the key steps in the production of the 3 rd RBMP and measures to ensure public involvement in the consultation process.
Significant Water Management Issues – Engagement	July 2019 6 months	“Identify the most significant water management issues, and potential solutions.” Gather evidence of pressures currently impacting on our water bodies and possible solutions
Significant Water Management Issues – Consultation	December 2019 6 months	“Have the Significant Issues been properly identified and what are the solutions.” Supported by evidence, outline the risks to water bodies not likely to achieve their objectives and seek agreement on priority actions.
Follow up engagement	July 2020 6 months	The Department will consider the responses from the consultation and where necessary facilitate further engagement with stakeholders on areas that may need further discussion.
Draft River Basin Management Plan – Consultation	December 2020 6 months	“Does the plan address the challenges required to meet our WFD Objectives” Proposing objectives for our water environment and outlining who will be involved to achieve these outcomes.
Follow up engagement	July 2021 6 months	The Department will consider the responses from the consultation and where necessary facilitate further engagement with stakeholders on areas that may need further discussion.
River Basin Management Plan – Publication	December 2021	“Final Plan to address issues.” This plan will be used as a framework to direct planning and specific measures to meet our WFD objectives.

Part 1: Introduction

1.1 The Water Framework Directive and River Basin Management Plans (RBMPs)

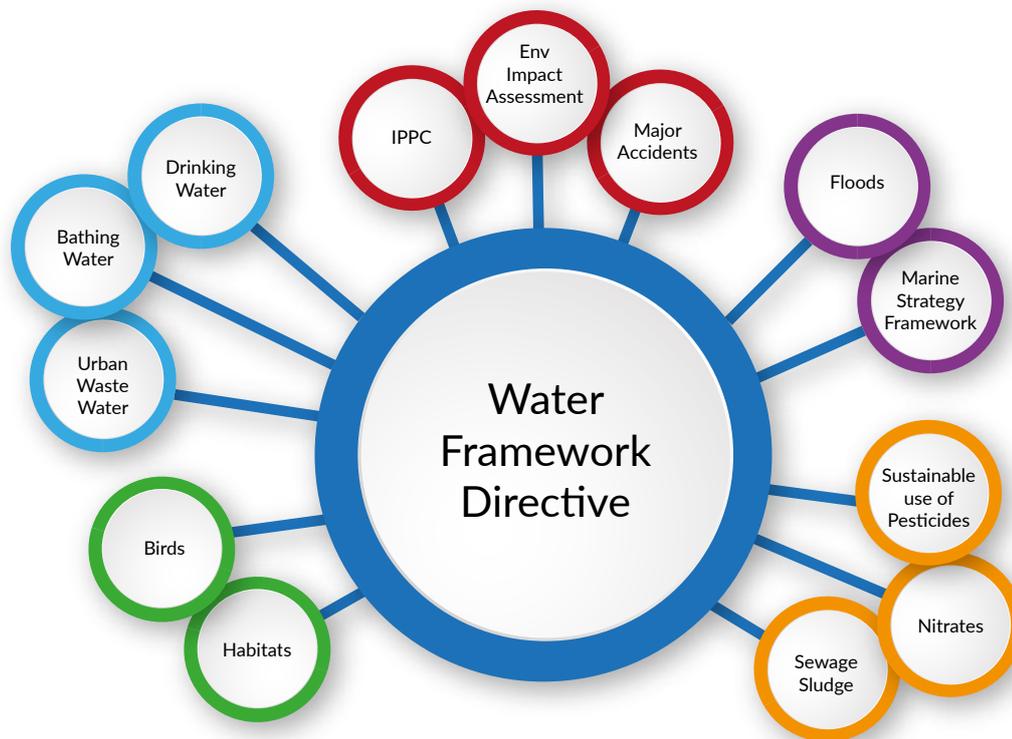


Figure 1 - WFD interaction with other EU legislation

The Water Framework Directive¹ (WFD) establishes a legal framework to protect and restore clean water across Europe and to ensure its long-term, sustainable use. It requires an integrated approach (i.e. across all sectors including agriculture, industry, spatial policy etc.) to the sustainable management and protection of water resources. It impacts on, and is equally impacted by, a diverse range of environmental plans and regulations. Ensuring the integration of all the aims of these plans is a particular challenge which is addressed later in this section.

The WFD requires the preparation of river basin management plans by Member States across three river basin planning cycles (2009-2015, 2016-2021 and 2022-2027) during which management measures must be implemented so as to achieve good ecological status in all waters. Achieving good water quality, through the programme of measures, will also contribute to protecting human health by improving the quality of drinking water sources and bathing waters.

In July 2010, the first-cycle River Basin Management Plans (RBMPs) for Ireland were published, covering the period up to 2015. This marked the culmination of many years of effort in monitoring and assessing Ireland’s surface and ground waters, classifying the waters according to their quality and setting objectives with a view to protecting and improving these waters in accordance with the WFD.

When the second-cycle RBMP was published, Ireland was two years behind the timeframes stipulated in the WFD, principally due to the major reform of the water sector at the time. Therefore, the current RBMP is in place for 4 rather than 6 years. New governance structures and improved implementation processes from those in the first cycle should put Ireland in a strong position to deliver meaningful results in this cycle, and allow for the improvements in water quality to be accelerated in the third cycle.

Work is now underway on the preparation of the third cycle RBMP covering the period up to the end of 2027. The RBMP will describe the main pressures and activities affecting water

1 https://ec.europa.eu/environment/water/water-framework/index_en.html

status, set out the environmental objectives to be achieved up to 2027 and identify the measures needed to achieve these objectives. A draft RBMP will be published by December 2020 and the plan will be finalised by the end of 2021.

The WFD is linked to a number of other EU directives in several ways. These include directives relating to the protection of biodiversity (Birds and Habitats Directives), directives related to specific uses of waters (drinking water, bathing waters and urban waste water directives) and to directives concerned with the regulation of activities undertaken in the environment (Industrial Emissions and Environmental Impact Assessment directives). The Nitrates Directive forms an integral part of the WFD and is one of the key instruments in the protection of waters against agricultural pressures.

Ensuring consistent policy integration between the River Basin Management Planning process and other national and local plans is an ongoing issue and is one which has been identified by external stakeholders as a priority. Forging consistent and robust linkages between different policy areas is a continuing challenge, whether it is in an environmental, economic or social context. This is a challenge that we must address when developing the next RBMP and tying the third cycle plan to Climate Adaptation Plans, Marine Spatial Planning, Flood Risk Management Plans, Biodiversity Action Plans, etc. will help us to gain multiple benefits from the measures implemented under all inter-related policy areas.

1.2 River Basin Management Planning and the Continuing Challenges

River basin management planning is a complex and challenging process that requires input and engagement from key stakeholders to be successful. The objective of river basin management plans is to achieve beneficial outcomes for water quality, the wider environment and for society in a manner that is consistent with long-term environmental goals and that is fair and cost-effective for society as a whole.

Actions to address the significant issues highlighted in this consultation paper will build on the good work undertaken through the first two cycles of river basin management planning and will continue the long term collaboration across all sectors involved in this process. In

highlighting what we see as the significant water management issues in this consultation, we are also looking for interested stakeholders to

- ▼ Reflect on the work that has been undertaken to date to address these issues,
- ▼ Project forward through to the end of the next cycle (2027), taking account of the challenges facing us in the short and medium term, and;
- ▼ Give their feedback to help us develop appropriate responses to these complex, often-interrelated issues.

1.2.1 Continuing challenges

The key purpose of the consultation process on Significant Water Management Issues is ultimately to reach agreement on where additional effort and resources will be directed during the third river basin planning cycle. In the meantime, other issues identified during the second cycle continue to be acted upon through the programme of measures.

Implementation of the second cycle programme of measures is being closely monitored by the Environmental Protection Agency (EPA) to ensure that they happen and to determine their effectiveness. The EPA reports to the Water Policy Advisory Committee which provides high level policy direction and monitoring of implementation so as to ensure that the environmental objectives set in the river basin plan are ultimately achieved. These measures are set out in the second RBMP. In summary, the main measures include the following;

- ▼ New governance structures from national to regional level have been put in place to manage the river basin planning process.
- ▼ Irish Water is investing in urban waste-water collection and treatment for 255 waste-water treatment projects in urban areas.
- ▼ A new legislative framework for the sustainable management of water abstractions, is being established. So far 1,530 abstractions have been registered. Recently Cabinet approved the preparation of a Water Environment (Abstractions) Bill. The Bill provides for an authorisation system to control all significant water abstractions in compliance with the Water Framework Directive. It is expected that the authorisation system will be operated by the EPA.

- ▼ Irish Water is working to reduce the current high level of network leakage and unaccounted-for water (45% of all water entering the supply network).
- ▼ Irish Water is preparing 353 public drinking-water source risk assessments and the National Federation of Group water Schemes is in the process of completing source protection plans for over 300 privately sourced, regulated group water schemes.
- ▼ A total of 190 Areas for Action have been prioritised nationally for particular attention during this cycle (2018–2021). These include a total of 726 water bodies. Actions involve multidisciplinary and cross-agency approaches.
- ▼ The new Local Authority Water Programme (LAWPRO) is now in place with 60 new staff. This new resource is focussed on co-ordinating and promoting mitigation measures in 190 prioritised Areas for Action.
- ▼ The Good Agricultural Practice Regulations continues to be reviewed and improved. The regulations set the rules for the management and application of all farm livestock manures and other fertilisers to agriculture land.
- ▼ The new Sustainability Support and Advisory Programme is providing increased focus on knowledge transfer aimed at driving behavioural change towards more sustainable farming practices for up to 5,000 farmers within the 190 Areas for Action. In addition, 18,000 dairy farmers will receive advice on sustainable farming practices under the Dairy Sustainability Initiative.
- ▼ The National Inspection Plan for Domestic Water Treatment Systems (2018–2021) continues to drive improvements in the performance of systems, with over 4,000 inspections being carried out by local authorities over this period. The grant scheme for repairing defective systems is being extended to prioritised areas to support implementation of the River Basin Management Plan.
- ▼ The Forest Service of the Department of Agriculture, Food and the Marine (DAFM) has overall responsibility for managing forestry activities in Ireland. Several innovative and effective new policies have been designed to protect waterbodies from the negative impacts of both tree felling and afforestation programmes. In addition, a new forestry scheme called 'Woodlands for Water' and new environmental guidelines for clear felling activities will contribute positively towards more sustainable forestry practices including water protection and restoration.
- ▼ Bord Na Móna is in the process of phasing out the extraction of peat for energy production by 2030. It expects to rehabilitate 9,000 ha. of cutaway bogs (covering 25 peatlands).
- ▼ Guidance for planning authorities on physical planning and the WFD is being prepared and will be consulted upon during 2020.
- ▼ Work is underway, led by the Environmental Protection Agency and Inland Fisheries Ireland, to improve the management of physical alteration to surface waterbodies (e.g. barriers to fish migration, drainage operations, physical infrastructure in or near water).
- ▼ A Community Water Development Fund has been established by LAWPRO to support local community water initiatives, with a particular focus on measures that are aligned with the priority actions in this Plan.
- ▼ The Blue Dots Programme has been established by local authorities to manage pressures in high status catchments. In addition, a new large scale EU funded LIFE Integrated Project called "Waters of LIFE" has just commenced which will support the Blue Dots Programme initiative. The project has a total budget of approximately €20.2m and will run over 7 years.

1.3 External factors to be considered in preparing the third River Basin Management Plan

There are a number of external factors that introduce an element of uncertainty in preparing the third River Basin Management Plan. These include the WFD fitness check carried out by the European Commission and the potential withdrawal of the United Kingdom from the European Union (commonly known as BREXIT).

The European Commission published a roadmap for a fitness check of the WFD and its 'daughter' Directives in late 2017. The daughter directives are the 2008 Environmental Quality Standards Directive and the 2006 Groundwater Directive. The Floods Directive was also included in the fitness check as it forms an integral part of the overall approach to water management at an EU level.

The purpose of the fitness check is to assess whether the current regulatory framework is "fit for purpose". The goal is to assess the effectiveness, efficiency, coherence, relevance and added value of EU water legislation. It will aim to explain how and to what extent the different Directives have contributed to improved water management and it will also assess the potential for regulatory simplification and burden reduction.

The fitness check evaluation report was published by the Commission on 12th December 2019 and concluded that the Directives are fit for purpose, with some scope to improve. It suggests that the Directives have led to a higher level of protection for water bodies and flood risk management than could have been expected without them. It also suggests that the main reasons that the WFD's objectives have not been reached fully yet is largely due to insufficient funding, slow implementation and insufficient integration of environmental objectives in sectoral policies as opposed to deficiencies in the legislation.

The fitness check also states that based on the assessment, progress towards good status can be expected to be slow but steady.

The next round of programmes of measures will play a key role in ensuring the necessary progress towards achieving the environmental objectives by the 2027 deadline. The fitness check concludes that the challenges for Member States are more than substantial and that the Commission will need to continue to work with Member States and help them improve implementation of the Directives at the lowest possible cost, e.g. by sharing best practices on cost recovery, reduction of pollutants at source, green infrastructure and others.

The outcome of the fitness check will need to be taken into account when preparing the draft plan in 2020.

With regard to BREXIT, there still remains considerable uncertainty. While this has the potential to impact on Ireland's preparation of the third plan it may not be significant. Two river basin districts (RBD) are shared with Northern Ireland. The Neagh Bann International RBD has 35 shared water bodies from a total of 407. The North Western International RBD has 85 shared water bodies from a total of 1,232. Following public consultation in 2003 in relation to IRBDs, administrative arrangements for implementation of the WFD were put in place. It is expected that these arrangements will be continued in some form into the future. The WFD was transposed in Northern Ireland through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017, which will continue the objective of coordinating the management of watercourses on a cross border basis for the foreseeable future. There is a long history of cooperation between authorities north and south in managing shared catchments. It is our intention to continue this cooperation into the future regardless of the outcome of BREXIT in the United Kingdom.

Part 2: Current condition of our waters

2.1 Introduction

The current condition of our waters is assessed against the standards and environmental objectives set out in the Water Framework Directive and other water-related EU legislation. Information has been collected from 2,703 surface water bodies (rivers, lakes, canals, transitional waters (estuaries) and coastal waters) and from 514 groundwater bodies over the period 2013-2018.

2.2 Surface waters

The quality of surface waters is assessed by looking at a range of different aquatic organisms whose presence and abundance tells us about the ecological health of the different water bodies. These biological quality elements include phytoplankton, macroalgae, aquatic plants, macroinvertebrates and fish. The ability of the water body to support different biological communities is also assessed. Information on biology and supporting physico-chemical and hydromorphological quality conditions is used to assess the ecological status which is an expression of the ecological health of these waters.

2.2.1 Ecological status of surface waters

Ecological status indicates if a natural water body is being damaged by pollution or habitat degradation. Waters in high and good ecological status show only minor or slight changes from natural conditions whereas waters at less than good status (moderate, poor or bad) are moderately to severely damaged by pollution or habitat degradation.

Overall, 53% of surface water bodies assessed are in satisfactory ecological health being in either good or high ecological status. The remaining 47% of surface water bodies are in moderate, poor or bad ecological status (Figure 2).

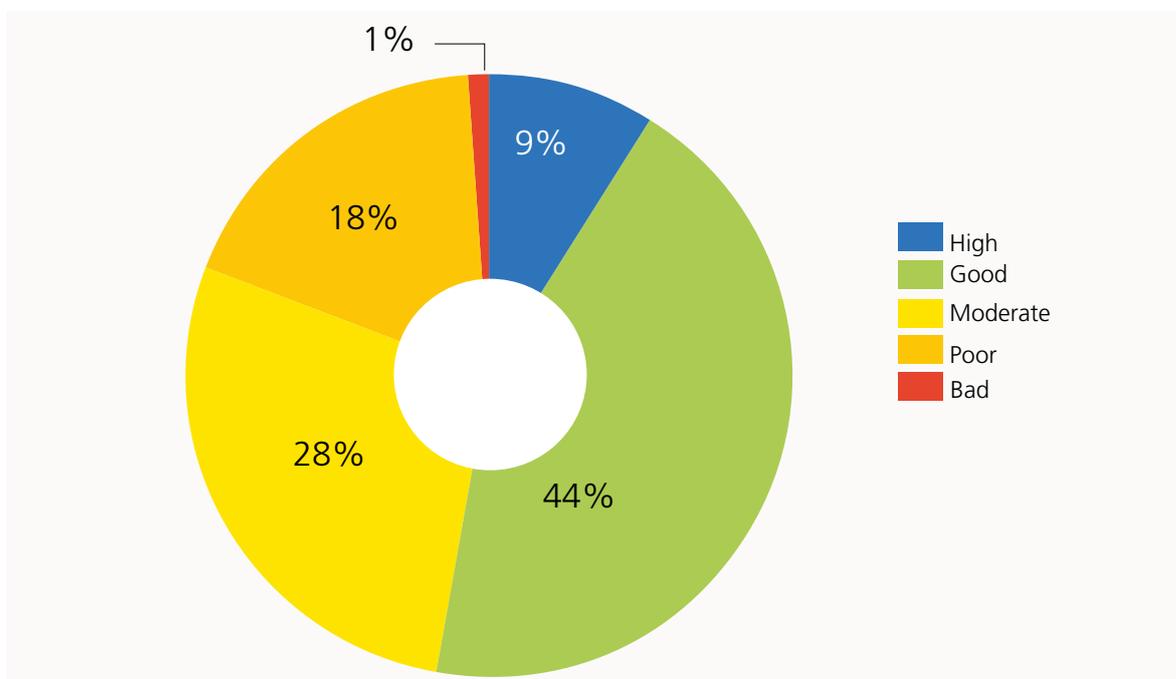


Figure 2 - Surface water ecological status 2013-2018

Coastal waters have the highest proportion of water bodies in good or high ecological status

(80%), followed by rivers (53%), lakes (50.5%) and estuaries (38%) (Figure 3).

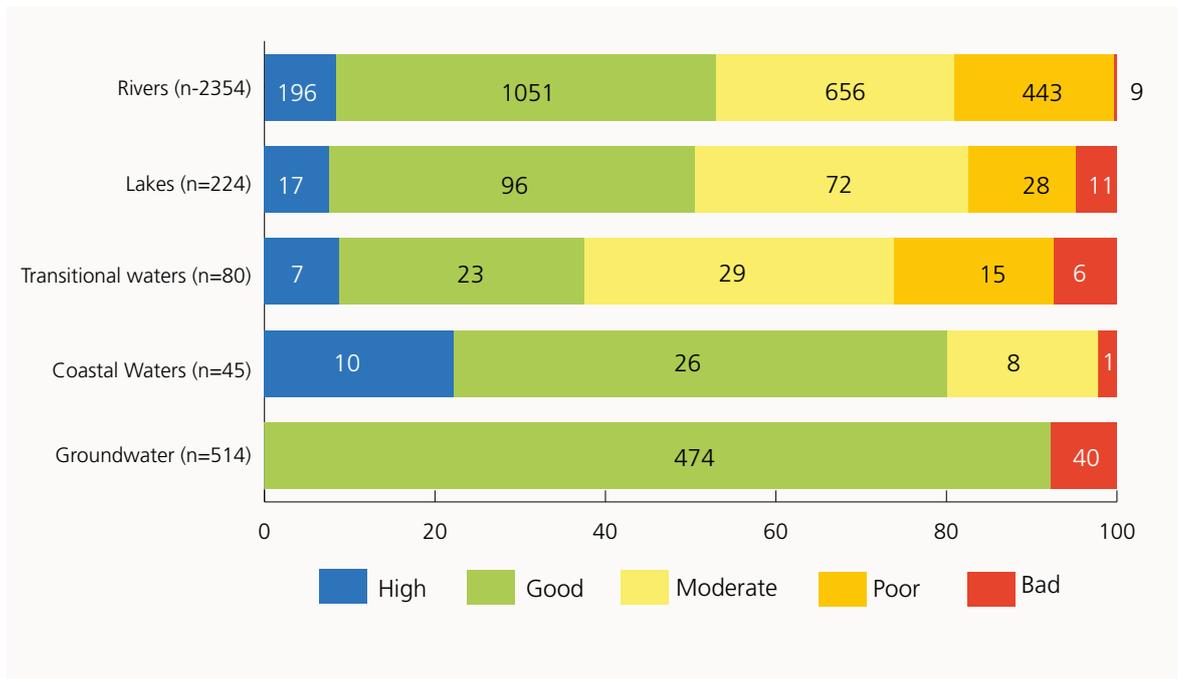


Figure 3 - Surface water ecological status for rivers, lakes, transitional waters, coastal waters and groundwater status 2013-2018

Just over two thirds or 68.2% of water bodies (1,825) did not change status since the last assessment in 2010-2015 while 18% (483) declined and 13.6% (368) improved (Figure 3). This resulted in an overall net decline in 115 surface water bodies or 4.4%. This was driven

mostly by the decline in river water bodies which declined by 5.5%. The only surface water categories to display a net improvement in water quality were coastal waters (a net improvement in 2 coastal water bodies) and lakes (a net improvement in 12 lakes).

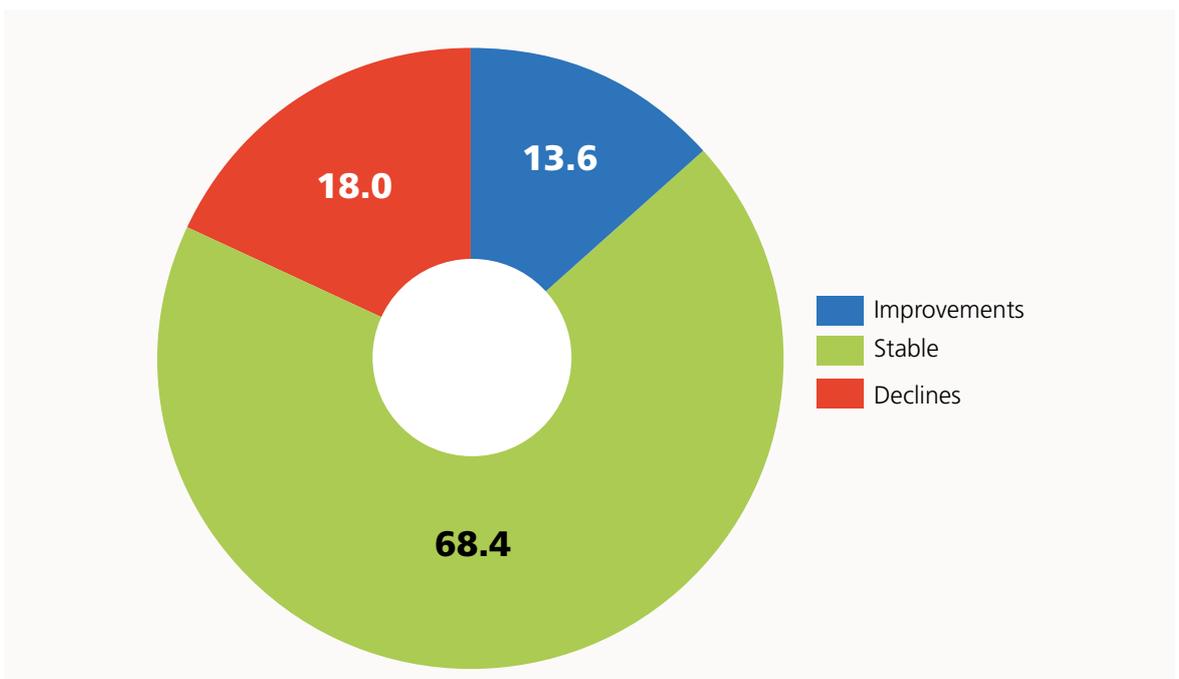


Figure 4 - Percentage change in surface water ecological status between 2010-2015 and 2013-2018

In terms of change across the five status categories, of note, is the decline in the proportion of high status water bodies, which have decreased from 12.9% (324 water bodies) in 2007-2009 (the first WFD baseline assessment) to 8.5% (230 water bodies) in 2013-2018 and the increase in the proportion of poor status water bodies, the next worst

polluted class after bad, which have increased from 14.8% (370 water bodies) in 2007-2009 to 17.9% (485 water bodies) in 2013-2018. This represents a significant decline in the number of our least impacted water bodies and a worrying increase in the number of significantly polluted water bodies.

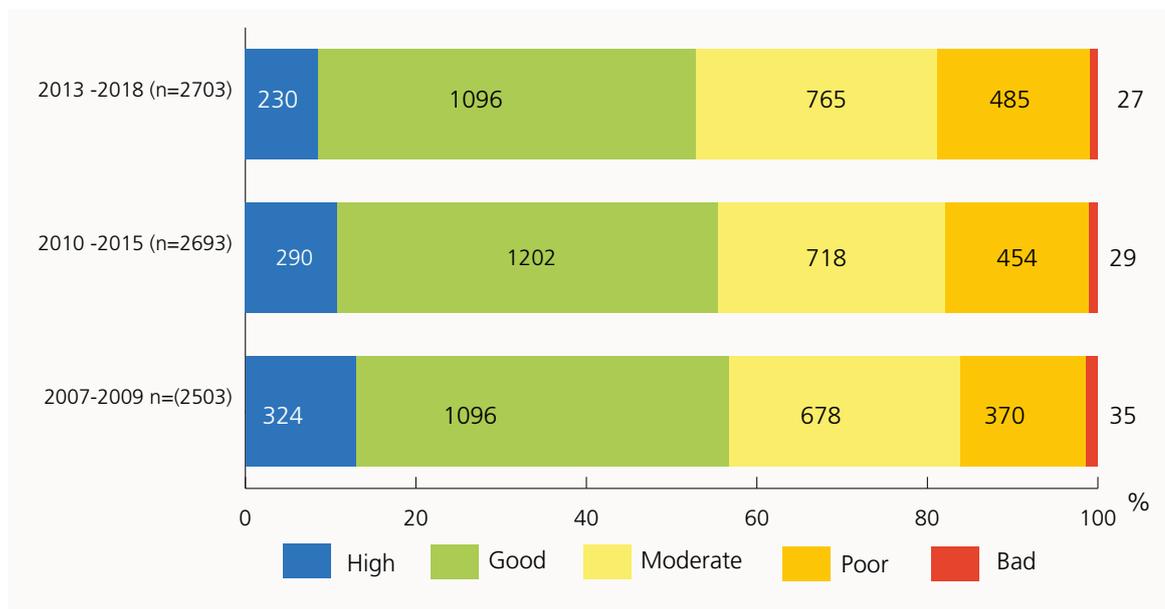


Figure 5 - Change in each of the five WFD status categories over three assessment periods for all surface waters.

Nearly all the negative trends are driven by changes in river water quality. The substantial increase in the number of river water bodies in poor status, which have increased by a third (or 111 water bodies) since 2007-2009 strongly indicates that river water quality is getting worse. At the other end of the spectrum, our highest quality river water bodies, are also in decline. The number of high ecological status river water bodies has fallen by 49 since 2010-2015 and by nearly a third (or 91 water bodies) since 2007-2009.

This further highlights the general decline that has been observed in our highest biological quality river waters (Q5, Q4-5)² since the late 1980s. The deterioration in these waters has been apparent over the past few decades, with a decline from 29.6% of sites in 1987-1990 to 17.2% in this assessment. Within this grouping, there has also been a dramatic 10-fold loss in our most pristine river sites (Q5), from 12.6% of sites in 1987-1990 to 0.7% of sites in 2016-2018. The number of remaining Q5 sites is now only 20 – an all-time low.

2.2.2 Chemical status of surface waters

The presence of chemical substances known as priority substances or priority hazardous substances, is also assessed against a range of environmental quality standards (EQSs). These standards have been set at levels to protect the most sensitive aquatic organisms and to protect those higher up the food chain (predators and humans) from their damaging effects. Waters which have concentrations below the EQS for these substances are defined as being in good chemical status. Information on these substances has been collected from a representative network of water bodies comprising of 181 river water bodies, 98 lakes, 33 transitional waters and 12 coastal waters.

Of the 324 surface water bodies assessed, 75% are in good chemical status having passed their respective environmental quality standards (Figure 5). The remaining 25% of monitored waters are in poor chemical status, having failed for substances such as mercury, polyaromatic hydrocarbons (PAHs) and polybrominated diphenyl ethers (PBDEs). When substances such as mercury and PAHs, which are widely present

² EPA Quality Classification system: Used to assess the water quality of rivers in Ireland, the Q-index is a quality measurement ranging from Q1-Q5 with Q1 being of the poorest quality and Q5 being unpolluted.

in the environment are omitted, the percentage of surface waters bodies failing to achieve good chemical status falls to 1%. These substances, which are known as ubiquitous substances, can be found in the environment many decades after measures have been put in place to reduce

or eliminate them. Many are also capable of long-range transport which means exceedances in a water body is unlikely to be caused by local issues in that water body or indeed even in the surrounding catchment.

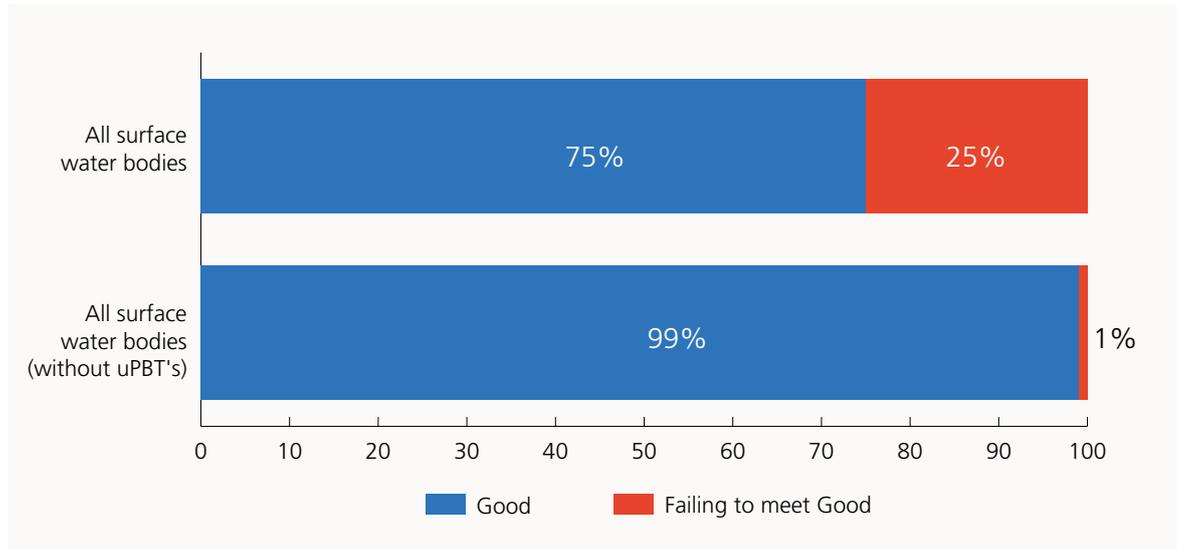


Figure 6 - Chemical status of monitored surface water bodies, with and without ubiquitous substances (uPBTs), 2013-2018.

2.3 Groundwater

Groundwater bodies must achieve good chemical status and good quantitative status. Overall 92% of groundwater bodies (474 out of 514) are in good chemical and quantitative status (Figure 2). Thirty eight groundwater bodies are in poor chemical status, primarily due to historic contamination from waste and industrial sites, which failed for substances such as nitrate, ammonia, chlorinated solvents, metals and hydrocarbons. Only 2 water bodies failed to meet the quantitative status objective.

bacterial contamination (*E. coli* and intestinal Enterococci). Under the system waters are classified into four main categories (excellent, good, sufficient and poor). Of the 145 bathing waters assessed in 2018, 103 are classed as excellent, 22 as good and 12 as sufficient. Five bathing waters were classified as Poor, compared to seven in 2017. Three of these are in the Dublin area (Sandymount Strand, Merrion Strand and Portrane (the Brook) Beach). The other two are Lilliput (Lough Ennell) in Co. Westmeath and Clifden, Co. Galway.

2.4 Water-Dependent Protected Areas

Bathing waters

The revised version of the Bathing Water Directive, which came into effect in 2014, seeks to reduce the risk to bathers and to improve human health protection by introducing stricter standards for bathing water quality and a new approach to assessment. The assessment of bathing water quality now uses the monitoring data for the current and three previous bathing seasons (on a rolling basis) rather than focusing solely on the most recent bathing season.

Nutrient sensitive areas

Nutrient sensitive areas are surface waters designated under the Urban Waste Water Treatment Directive that are eutrophic or may become eutrophic (due to excessive phosphorus or nitrogen inputs) in the future if protective measures are not taken. The Urban Waste Water Treatment Directive (UWWTD) (91/271/EEC) requires member states to review nutrient sensitive areas every four years. In the last review in 2016, 72 urban waste-water discharges were above a population equivalent of 10,000. Of these, 47 showed evidence of nutrient sensitivity in waters downstream of the discharge. In total 67 water bodies were identified as nutrient sensitive including 11 lakes, 32 river sections and 24 transitional and coastal waters. Once a nutrient sensitive area is

In 2018, 145 bathing waters were assessed and categorised into four categories based on the level of compliance with standards relating to

designated additional nutrient removal must be applied (if not already applied) to waste water treatment plants discharging to the sensitive area.

Drinking water protected areas

The WFD requires the identification of Drinking Water Protected Areas (DWPAs). These are lakes, reservoirs, rivers and groundwater bodies from which water is abstracted for people to drink. In most cases this raw water is treated to purify it to the required drinking water standard. The EPA Drinking Water Report for Public Water Supplies 2018 provides an overview of drinking water quality in Ireland for 2018. The report finds that the quality of drinking water in public supplies remains high, with at least 99% of samples collected complying with the required microbiological and chemical standards. However, risks do occur. Pesticides have been detected above water quality standards in some water supplies. Risk of contaminated water supplies from the parasites, *Cryptosporidium* and *Giardia* have also been identified in some supplies. The most notable was the recent incidents at Leixlip water treatment plant, which resulted in a boiled water notice being issued to over 600,000 people.

During 2018, 44 Boil Water Notices were in place affecting 97,204 people and 15 Water Restriction Notices were in place, affecting 14,613 people. The parasite *Cryptosporidium*, was detected in 25 public water supplies in 2018, up from 17 in 2017 and 12 in 2016. In addition, 54 supplies were being affected by persistent trihalomethanes (a disinfection by-product) failures while 34 supplies were being affected by pesticide issues and three supplies failed to meet the nitrate standard for drinking water.

In relation to private supplies, water quality is consistently poorer than in public supplies and must be improved further. Small private supplies, which serve commercial and public uses, in particular need better monitoring and management

Shellfish waters

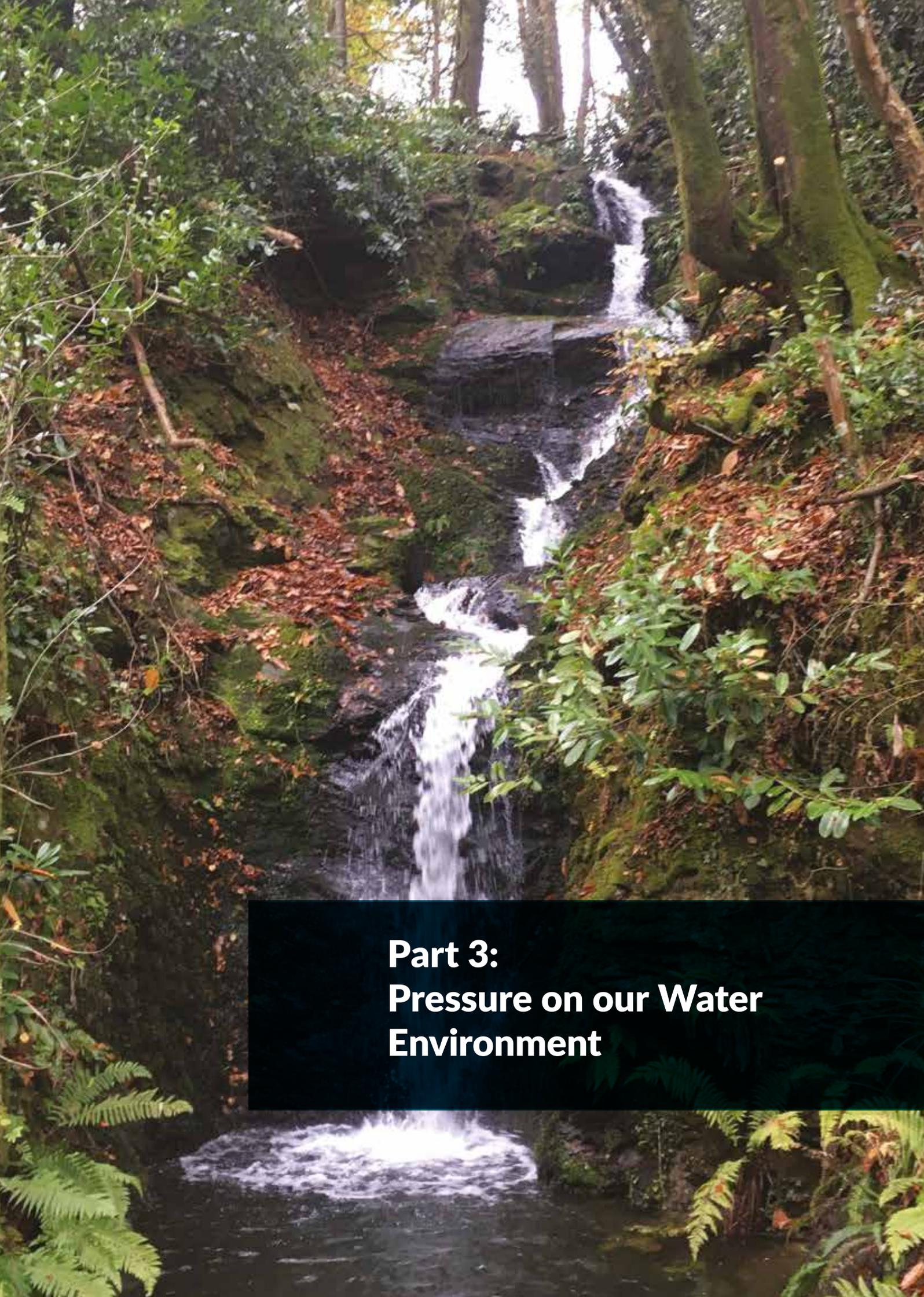
A total of 64 shellfish waters have been designated in Ireland. These waters are assessed for compliance against a range of physico-chemical and bacteriological parameters. Trace metals, organohalogen and physico-chemical parameters.

In 2018, water samples for the assessment of metal concentrations were collected from 31 shellfish areas. In all samples, dissolved metal concentrations (arsenic, cadmium, chromium, copper, lead, nickel, silver and zinc) were compliant with the mandatory values. Furthermore, these water concentrations were also less than the WFD EQS established in the Surface Water Regulations (S.I. No. 272 of 2009). An analysis of physico-chemical parameters (i.e. salinity, temperature, dissolved oxygen, pH and suspended solids) did not indicate any significant disturbance to the physico-chemical environment and its ability to support shellfish populations.

Protected water-dependent habitats and species

Many of the habitats and species listed for protection in the Birds and Habitats Directives are water dependent and maintenance and restoration of these features to favourable conservation status is the responsibility of the National Parks and Wildlife Service. The lists of water-dependent features protected under Annexes I and II of the Directives include 45 habitats and 21 species found across terrestrial wetlands, river, lake, groundwater, transitional and coastal water bodies. Under the Habitats Directive, the most recent reporting period (2013-2018) found that 84% (38) of water-dependent habitats and 47% (10) of species assessed are in unfavourable conservation status. The top five pressures reported for water dependent habitats are water pollution (including nutrients, sediment and organic matter), drainage/modification of hydrology, peat extraction, water abstraction, overgrazing by livestock and invasive alien species. Peatland degradation is a common contributory factor in the unfavourable status of many water-dependent habitats and species. Key land-uses contributing to the identified pressures are agriculture, forestry, renewable energy and peat-extraction.

Birds Directive reporting for the same period shows acute declines for some wintering waterbird species as well as for breeding waders. The most significant reported pressures for wintering waterbirds include climate change, energy production (e.g. wind farms), hunting, recreational and other disturbance, shellfish harvesting and aquaculture, as well as afforestation, bycatch, and mixed source water pollution/eutrophication.



**Part 3:
Pressure on our Water
Environment**

Part 3: Pressures on our water environment

The second cycle River Basin Management Plan highlighted there were 1460 water bodies that were not meeting their WFD objectives, and that they were impacted by a range of significant pressures. Agriculture, hydromorphological pressures, urban waste water and forestry were found to be the most common pressure types (Figure 1). The recent monitoring data show that 242 of these water bodies have now achieved their WFD objectives, and that the improvements have been achieved across all of the pressure types. This represents welcome progress towards achieving these objectives but significant work for all sectors remains.

It has been highlighted in Part 2 that there has been an overall deterioration in water quality over the last monitoring period. This has resulted in almost 400 new water bodies that are now not achieving their targets, and which do not yet have significant pressures identified. Targeted pressure-impact assessments will be undertaken in the coming months to identify the significant pressures in these areas to inform the programme of measures in the next plan.

Despite the net overall deterioration, there has been an overall net improvement of 13% (or 81 water bodies) in the water quality of water bodies

that were prioritised in the Areas for Action in the second cycle river basin management plan. This is an encouraging trend which highlights the ongoing efforts of the Local Authorities and other Public Bodies who have been working to improve water quality during this monitoring period (2016-2018). As the Local Authorities Waters Programme and the Agricultural Sustainability Support and Advice Programme only commenced working in the Areas for Action after this period, the full benefits of their local catchment assessments and community engagement activities will not be apparent until the next monitoring cycle (2019-2021).

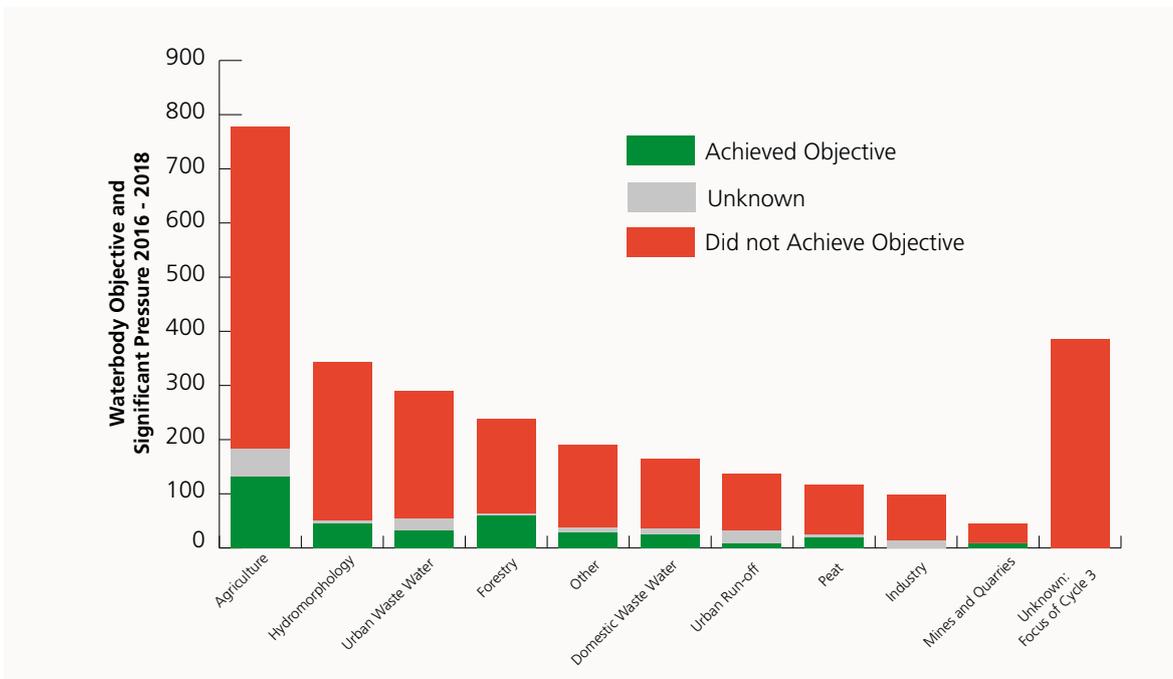


Figure 7 - Progress towards achieving objectives for water bodies identified as At Risk in the river basin management plan, and new water bodies that have emerged through recent monitoring that will be a focus for the next cycle.

3.1 Pressures on our waters

Agriculture covers over 65% of the land area of Ireland and is the most frequent significant pressure in water bodies that are not meeting their WFD targets. The main problems from farming are loss of excess nutrients and sediment to water. Excess phosphorus and sediment are typical issues for rivers and lakes, and too much nitrogen is the main issue for estuaries and coastal waters. Excess ammonium may also be a problem in some waterbodies. These losses arise from point sources such as farmyards or from diffuse sources such as the spreading of fertilisers and manures.

Hydromorphology: Hydromorphological modification means change to the physical habitat conditions or a water bodies' natural functioning caused by, for example, dredging and straightening of rivers (channelization), land drainage, or hard infrastructure such as dams, weirs, barriers, locks, embankments, culverts, piers, ports and sea walls. The understanding of how hydromorphological pressures impact water quality has advanced in recent years and is becoming a greater focus of water quality impact assessments.

Urban Waste Water: Direct discharge of nutrients from urban waste water treatment plants and discharge from combined storm overflows (CSOs) or storm water overflows (SWOs) are the most common water quality problems associated with urban waste water. Discharges of elevated concentrations of phosphorus, ammonium and nitrogen impact on the ecology of surface waters, while elevated concentrations of bacteria and pathogens impact bathing waters and shellfish waters.

Forestry: Inappropriately-sited forests and poorly-managed forest operations can negatively impact on water quality and aquatic habitats and species. The most common water quality problems arising from forestry relate to the release of sediment and nutrients to the aquatic environment and impacts from acidification. Forestry may also give rise to modified stream flow regimes caused by associated land drainage.

Domestic Waste Water includes septic-tank systems associated with one-off housing and small unlicensed private urban waste-water

treatment plants. If not correctly installed and well maintained, these systems can result in leakage of untreated effluent to waters.

Urban Run-off is a mixture of leakage from sewers, runoff from paved and unpaved areas, and misconnections where private foul connections are connected to storm sewers instead of the foul sewer network.

Peat: Impacts on water quality and river habitat arising from peat extraction and drainage include the release of ammonium and fine-grained suspended sediments, and physical alteration of aquatic habitats. Drainage of peatlands also results in changes to the hydromorphological condition of rivers.

Industry pressures include impacts from discharges and emissions from facilities licensed by the EPA (46) and the Local Authorities (43).

Other pressures include impacts from activities such as water abstractions, invasive species and historically polluted sites. These activities each impact a relatively small number of water bodies so they have been grouped together.

3.2 Blue Dot high status Catchments

The loss of our best quality High Status waters is of critical concern and is among the highest priority for water management in Ireland. The second cycle river basin management plan highlighted that there is a different profile of pressures impacting on high status waters with forestry being most prevalent, followed by hydromorphological pressures and agriculture.

The latest monitoring data show that there has been some progress towards meeting WFD objectives across most pressures impacting on high status waters, but that overall, deterioration is continuing. Over half of the high status objective water bodies are not meeting their water quality targets. A further 108 High Status Objective Water Bodies have declined in quality since 2016; these will need to have the Significant Pressures identified over the coming months to inform the Programme of Measures for the third cycle plan.

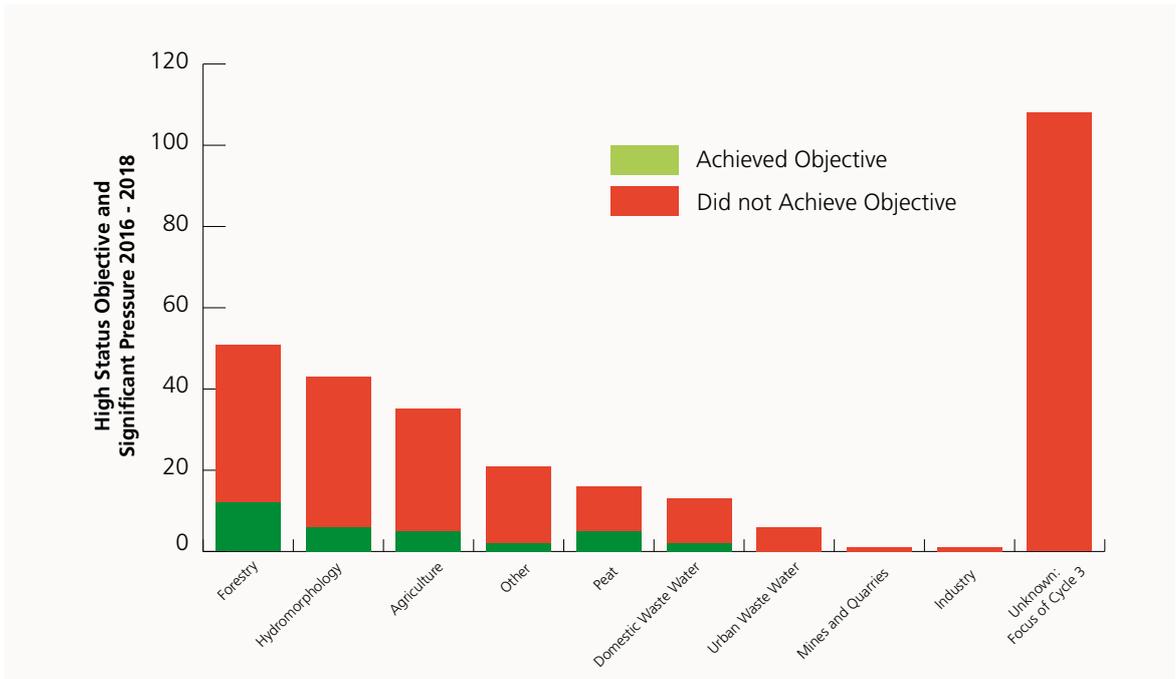


Figure 8 - Progress towards achieving objectives for high status water bodies identified as At Risk in the river basin management plan, and new high status water bodies that have emerged through recent monitoring that will be a focus for the next cycle.





**Part 4:
Significant Water Management
Issues**

Issue 1: Prioritisation

Focus on outcomes



Background / Why this is an issue

Prioritisation of catchments aimed at delivering environmental improvements is a key principle of the current cycle of River Basin Management Planning. National measures such as the Good Agricultural Practice Regulations, Irish Water's capital investment programme and the GLAS agri-environment scheme are widely applied. However, for the second cycle it was decided that additional targeted efforts based on evidence was needed to drive improvements. The prioritisation exercise undertaken at the planning stage will set the agenda for the 6-year cycle. This will allow all stakeholders to carefully plan their work for the duration of the RBMP, and will help to steer the allocation of resources to ensure the priority outcomes are achieved.



What is currently being done

The current RBMP sets out high-level priorities (see page 47 of the plan). These are:

- ▲ Ensure full compliance with relevant existing EU legislation
- ▲ Prevent deterioration
- ▲ Meet the specific water-related objectives required for protected areas
- ▲ Specifically protect and restore our high status objective water bodies
- ▲ Prioritised catchment Areas for Action.

From the above priorities, 190 Areas for Action were selected based on decisions made through local-authority-led regional structures, supported by the EPA's scientific analysis and evidence-base. Decisions took into account the priority objectives set out in this plan and also had regard to the available scientific evidence and to wider socio-economic and feasibility considerations. Work to progress these priorities is continuing across all levels of the WFD governance structures. For example, the Department of Housing, Planning and Local Government is working with the European Commission to ensure Ireland achieves full compliance with the relevant EU water legislation. A Blue Dot Catchments Programme and LIFE Integrated Project have also commenced with the specific aims to protect and restore high status objective water bodies.

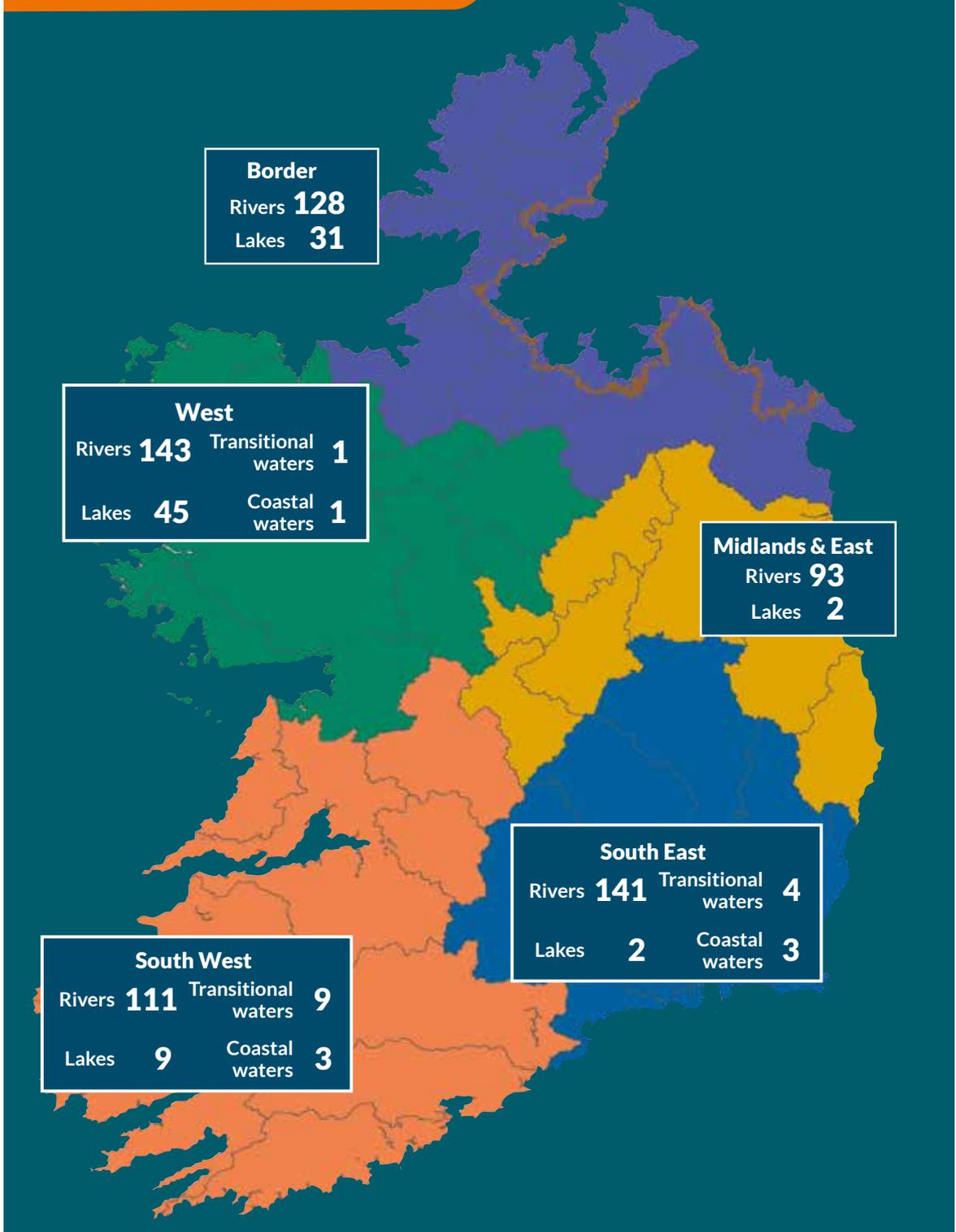
There has been broad support for the targeted prioritisation and in fact there is evidence, albeit early, that positive water quality outcomes are being delivered. It is proposed to continue with this approach for the third cycle RBMP, which is due to commence in 2022.



Considerations:

- ▼ Of the current priorities in the RBMP, which do you consider to be the most relevant?
- ▼ Are there any additional priorities you think should be included in this RBMP cycle?
- ▼ Would you amend any of the existing priorities?
- ▼ Are there any external factors you think should be considered in setting priorities for this RBMP cycle?

Priority Water Bodies by Region



Issue 2: Public Participation



Background / Why this is an issue

In the spirit of the Water Framework Directive the government wishes to encourage and support the active involvement of all interested parties in the implementation of the directive. In particular this includes the production, review and updating of the river basin management plan. It is acknowledged that the success of river basin management plan implementation relies on close cooperation and coherent action at national and local level as well as on information, consultation and involvement of all water users.

It is also widely recognised that the involvement of all interested stakeholders in decision-making results in greater legitimacy of the need for actions.

In Ireland we are fortunate in having a large number of groups, communities and individuals who are actively engaged in the river basin management planning process and are interested in improving water quality. The government wishes to nurture and grow that active engagement.



What is currently being done

Recognising that active public engagement in the first river basin planning process needed improvement, considerable effort and resources have been invested into improving the support for participation. New structures are now in place including the National Water Forum (An Fóram Uisce) and the Local Authority Water & Communities Office (LAWCO), which is part of the Local Authority Waters Programme (LAWPRO). Information on catchment management is also provided through the EPA's catchments.ie website and the water and communities website.

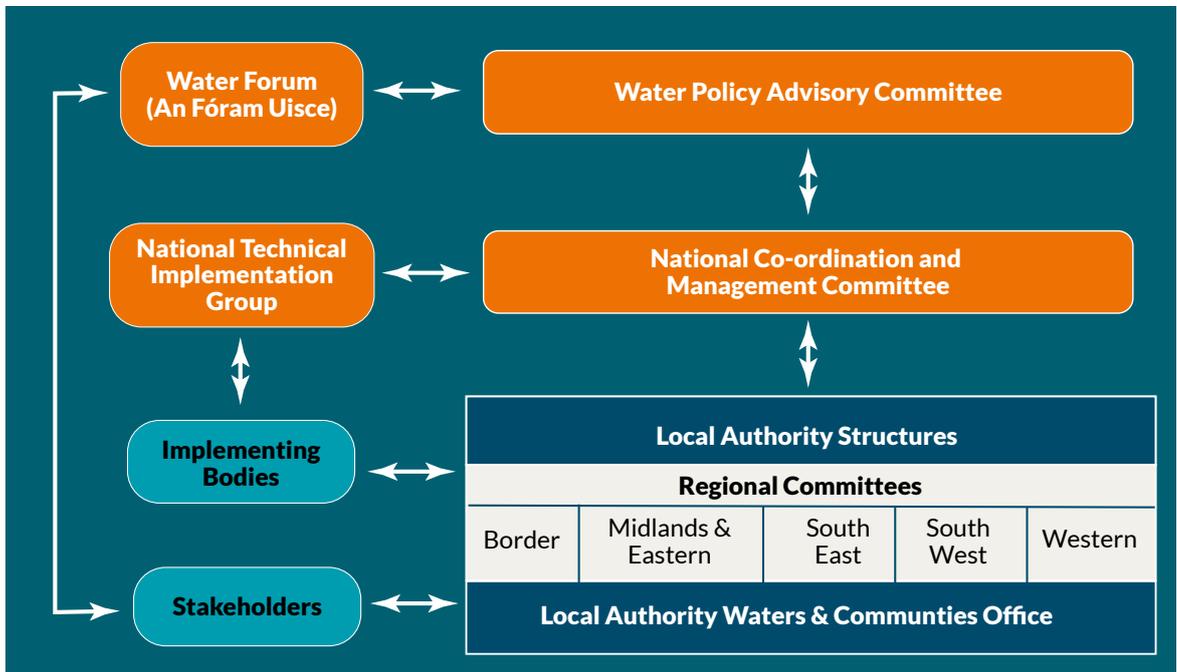
In 2018, an independent statutory body, An Fóram Uisce was established to provide a platform for public engagement on all matters relating to water as an environmental, social and economic resource and to strengthen the democratic input into our decision-making.

LAWPRO actively undertakes many activities to increase community education and awareness of water issues. Established at the end of 2016 it led local consultation on the second River Basin Management Plan. 122 public meetings were held which generated over 1,000 submissions. It is also looking for other ways in which to encourage and support community action and partnership in the catchment-based approach to improve water quality. LAWPRO has also engaged extensively with local authorities and other public bodies and has been a catalyst in improving community and public body collaborations at local level.

One of the tools used by LAWPRO is the Community Water Development Fund, which allows small grants to be channeled to local communities to carry out a range of water-based projects and activities. However, it is a considerable leap from this level of support to the point where local groups are able to form cohesive structures that could become the vehicle to source additional and more significant funding, to in turn allow a greater level of involvement in catchment visioning, action planning and larger-scale implementation.

Recently, the Minister for Housing, Planning and Local Government provided additional funding, through LAWPRO, to support the Irish River Trust's Resilience Pilot Project. This is a three year project, intended to assist with the establishment phase for two Irish Rivers Trusts (Inishowen and Maigne) to enable them to become self-sufficient. The pilot offers the possibility of supporting community-based groups working actively on the ground across the country; such groups will initially work alongside government-assisted programmes such as LAWPRO but could form a backbone of continuing water quality actors into the longer term, when dedicated central government support is no longer available. The pilot project will be evaluated and will inform future community engagement initiatives.

Working in partnership with local communities



Community Meeting in the Louisburgh Bunowen Priority Area for Action.



Considerations:

- Do you feel people are given the opportunity to engage in the way our waters are managed? Please provide examples to support your answer including ways this may be improved.



Useful Links

www.watersandcommunities.ie

www.catchments.ie

www.theriverstrust.org

Issue 3: Land-use Planning

Future-proofing planning and development



Background / Why this is an issue

Planning in Ireland is critically important to the future sustainable management of water resources. We require both planning at a strategic level and careful consideration of individual applications for planning permission. The planning system, therefore, makes a significant contribution to water objectives by ensuring that development that could pose a risk is avoided in the first instance, where feasible, and by including appropriate conditions in planning permissions for new development.

The planning framework requires further improvement to support both development plan making and decision-making. Steps are needed to ensure that future infrastructure is “WFD proofed”!



What is currently being done ?

While the current planning legislation requires that water management is integrated into the planning system for the purpose of supporting the protection and enhancement of water quality, to-date there has been limited practical guidance available to planning authorities on how to do this.

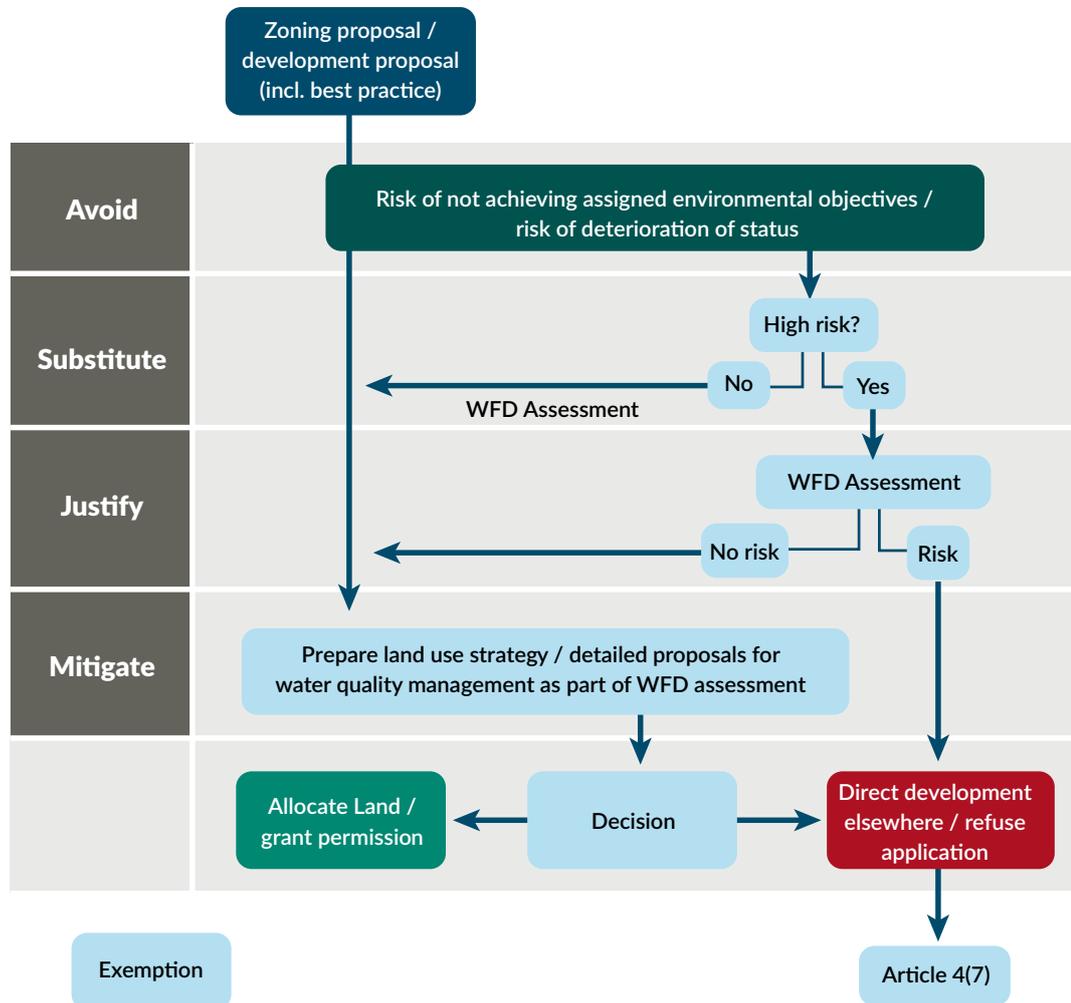
To address this deficit the Department of Housing, Planning and Local Government has undertaken the preparation of detailed guidance to assist planners in their role, and also to assist developers and other stakeholders in making appropriate applications for planning permission. The guidance will be informed by technical work undertaken in recent years that was led by the Department of Housing, Planning and Local Government and the EPA.

The general approach in the planning guidance will be to;

- ▼ Ensure consistency with other relevant planning guidance, e.g. Flood Risk Guidelines, Appropriate Assessment (AA) and Strategic Environmental Assessment (SEA) processes, Environmental Impact Assessment (EIA) process etc.
- ▼ Take a sequential approach for both development plan and development management.
- ▼ Front load WFD assessment at the development plan stage.

The next phase of work will be to (1) amend planning legislation to give effect to the guidance, (2) provide training to planning authorities in the application of the guidance and (3) continue to improve decision support tools to assist planning authorities to determine the likely impact of proposed future development. Authorities will also work towards defining more clearly the performance criteria for future infrastructure to ensure that it is “WFD proofed”.

Sequential Approach Mechanism in the Planning Process



Considerations:

- How can the planning system be further improved to contribute effectively to the protection and improvement of water resources in Ireland ?



Useful Links

www.watersandcommunities.ie

www.catchments.ie

The National Planning Framework: www.npf.ie

RBMP section on land use planning:

www.housing.gov.ie/sites/default/files/publications/files/rbmp_full_reportweb.pdf

www.floodinfo.ie

Issue 4: Agriculture

Future agriculture that works for water

Background / Why this is an issue

Agriculture is a significant pressure on water quality in Ireland. Water quality can be negatively affected by the presence of pesticide residues, nutrients from fertilisers, or sediments from soil erosion. Protection of waters from agricultural pollution is primarily addressed through the Good Agricultural Practices regulations. In addition, protecting water quality is a key issue of the Common Agricultural Policy which aims to avoid water pollution from agricultural activity.



The Rural Development Programme (RDP) under the Common Agricultural Policy (CAP) is the principal mechanism for introducing measures to mitigate the impacts of agriculture on the environment through the use of incentivised agri-environmental schemes. The current RDP, which runs to the end of 2020, has a number of schemes that can introduce measures for farmers to help reduce the impact of agricultural activity on water, principally the GLAS scheme.

The current review of CAP proposes significant changes to how EU Member States will address these challenges for the period 2021 to 2027. A key aspect of the proposed policy is a shift in emphasis from compliance and rules towards results and performance, which is to be achieved through strategic plans developed at Member State level.



What is currently being done

The implementation of the Good Agricultural Practice Regulations continues to be the cornerstone of measures to control pollutant inputs to waters. These regulations will continue to be reviewed and amended, as appropriate. The current RDP includes a number of schemes that provide certain levels of protection to water quality from agricultural activities. The most significant of these schemes is GLAS, which provides payments to farmers for selecting environmental protection measures to implement on their farm. In relation to water protection, these include fencing of, and preventing cattle access to, watercourses that run alongside fields, and low emission slurry spreading. In addition, farmers in high status water catchments were given priority access to the GLAS scheme.

The Department of Agriculture, Food and the Marine are currently developing a new national CAP Strategic Plan and are actively engaging with all relevant stakeholders through the CAP Post-2020 Consultative Committee.

Of nine core objectives a number are interrelated and are particularly relevant to achieving environmental objectives, including water objectives. These include:

- ▼ Climate change action
- ▼ Environmental care
- ▼ Preserving landscapes and biodiversity
- ▼ Supporting vibrant rural areas
- ▼ Protecting food and health quality

The CAP proposals aim for higher ambition on environmental and climate action. They specifically include provisions for (1) preserving carbon-rich soils through protection of wetlands and peatlands and (2) obligatory nutrient management tools to improve water quality and to reduce ammonia and nitrous oxide levels.

It is expected that the outcome of the plan making process will result in the development of eco-schemes and agri-environmental schemes, which will introduce new measures aimed at protecting water quality for the period 2021 to 2027. There is significant scope and potential to develop smart and efficient measures, which are capable of delivering multiple benefits including for biodiversity, climate, flood mitigation, human health and water policy objectives.

With regard to the proposed shift in emphasis under CAP from compliance and rules towards results and performance, it is noteworthy that there are a number of Results Based Payment Schemes and pilot projects (RBAPS) already in place (e.g. the Burren Programme) or under development (e.g. new Waters of LIFE Integrated Project). These types of initiatives may pave the way for how improved environmental performance can be promoted and rewarded into the future.

Considerations:

- ▼ How can the agricultural sector contribute towards improving water quality ?
- ▼ Do you believe that CAP will have a positive or negative impact on water quality in Ireland?
- ▼ Do you think CAP measures to protect water quality should be retained at a national scale or become more locally targeted?

Useful link

CAP Post 2020:

www.agriculture.gov.ie/farmerschemespayments/commonagriculturalpolicycappost2020/

Issue 5: Climate Change

Make water resources and services resilient to climate change

Background / Why this is an issue

Climate change is acknowledged as a significant issue that impacts on all aspects of our environment, not just water. In Ireland, average national rainfall and average annual temperatures are expected to rise into the middle of this century, along with a continued trend of rising sea levels.

Mitigating climate change while protecting water quality is a considerable task for Ireland. However, many of the measures used to protect water quality, can also prove beneficial in tackling climate change.

Some of the potential consequences of climate change include:

- ▶ Higher rainfall and increased flood events, which can lead to the mobilisation of pollutants.
- ▶ Drier weather periods leading to reductions in the dilution of contaminants in water bodies.
- ▶ Increased temperatures and drier weather impacting on peatland and resulting in the reduction of natural filtration of pollutants.

What is currently being done

The Department of Housing, Planning and Local Government (DHPLG) has recently published its Climate Adaptation Plan for the Water Quality and the Water Services Infrastructure sectors. The Plan is intended to assist in managing the risks from climate change for water quality and for water services infrastructure. It describes the key risks and proposes necessary adaptive measures. The outcomes of this assessment will be used by policy makers, implementing organisations and stakeholders within the water sectors to inform further, detailed adaptation planning. The Plan will provide a valuable resource for informing the design of measures for the third river basin planning cycle, particularly measures which are aimed at mitigating climate change impacts on water quality. The implementation of the Climate Adaptation Plan will be overseen by the Water Policy Advisory Committee through the new River Basin Planning Governance structures.

With regard to the implementation of the Climate Adaptation Plan in the water sector, Irish Water and the National Federation of Group Water Schemes will take account of it in their future business planning processes for public and private water services.

DHPLG is also engaging with the Department of Agriculture, Food and the Marine on its design of the new CAP policy, with a guaranteed commitment of 30% of the CAP rural development budget to be spent on climate change mitigation measures.

As mentioned previously, work in relation to the Flood Risk Management Plans will also help to ensure that any short to medium-term impacts of climate change are mitigated in Ireland. This will help to protect industry and properties, and will link with the River Basin Management Plan in terms of meeting the environmental objectives set out in the Water Framework Directive.



Considerations:

- Do you believe the links between climate change policy and water policy can be improved, and if so, have you any suggestions on how they could be improved?
- Do you consider climate change to be a significant threat to water quality in Ireland?



Useful Links

www.dccae.gov.ie/en-ie/climate-action/topics/adapting-to-climate-change/national-adaptation-framework/pages/default.aspx
www.housing.gov.ie/sites/default/files/publications/files/dhplg_sectoral_adaptation_plan_final_en.pdf
www.climatecouncil.ie

Issue 6: Pollution of Waters (phosphorus and nitrogen)

The right measure in the right place

Background / Why this is an issue

The pollution of waters from excessive nutrients (nitrogen and phosphorus) is the most challenging water quality problem in Irish waters. The excess nutrients lead to increased growth of algae and plants, which impacts on aquatic ecosystem health.

The main sources of nutrients in the landscape are domestic and urban waste water and fertilisers and manures from agriculture. Diffuse losses from agriculture is a particularly difficult source to manage as a proportion of nitrogen and phosphorus applied on agricultural land is lost to surface waters in overland runoff or leaching. These diffuse nutrient losses from agriculture do not occur uniformly in the landscape but from 'hot spots', or critical source areas. These are areas where the source of nutrients has a pathway through the landscape to a water body.

Phosphorus loss from agricultural land often occurs from relatively small critical source areas on poorly draining soils and steep slopes. Concentrations of phosphorus in surface waters have been increasing in recent years in areas with heavy soils. Targeting measures that break the pathway between farm runoff and the receiving waters are most likely to be effective in these areas.

Nitrate loss is most common in freely draining soils, where it leaches readily to groundwater before being discharged into river systems and onwards to estuaries and coastal waters where it causes water quality problems. In the freely draining catchments in the south east, nitrate losses are closely correlated with farm intensity: the higher the application of nitrate to land, the higher the nitrate concentrations in waters. Nitrogen losses from these catchments in the south east of the country continue to rise, and are over double the annual losses from catchments in the west.



What is currently being done

Urban Waste Water: Progress has been made in reducing the phosphorus and nitrogen emissions from municipal wastewater treatment plants and industrial discharges (large point sources). Irish Water’s investment in waste water projects, programmes and asset maintenance continues to contribute to the reduction in per capita nutrient emissions from wastewater and is effective at improving water quality where it is targeted at plants which have been identified as significant pressures. In addition, Irish Water are in the process of completing drainage area plans for 44 urban areas. Although this may not directly translate to water quality improvements by 2021, this will help prioritise areas where leaking sewers and misconnections are an issue and where effort should be targeted next.

Agriculture: The implementation of the Good Agricultural Practice Regulations continues to be the cornerstone of measures to control the input of phosphorus and nitrogen to waters. However, in recognising the need to identify the critical source areas of these nutrients in catchments and to further target pollution control measures in the right place (The right measure in the right place), additional local measures are needed in some areas. Where agriculture is a significant pressure, LAWPRO is working with the Agricultural Sustainability Support and Advice Programme (ASSAP) officers, who are providing farmers with a free and confidential advisory service to help improve water quality. ASSAP has 30 farm advisors, 10 of whom are funded by the Department of Agriculture, Food and Marine, 10 by the Department of Housing, Planning and Local Government, and 10 by private dairy co-ops. Catchment scientists provide these teams with the evidence needed to target their work to get the best environmental outcomes.

Current Measures: Other targeted measures to address the non-urban sources including septic tanks and farmyards (small point sources) and from diffuse agricultural losses are being implemented under the current RBMP and have driven the move from national, one size fits all measures to more localised action with the aim of putting the right measure in the right place.

New risk assessment tools are in development to help identify high-risk areas to target measures to reduce the losses of nutrients to surface waters in Ireland. Several large scale, EPA research projects are also underway, such as SmartBufferz, Slowwaters and Watermarke, to support the development of new and targeted measures to reduce impacts from nutrient pollution in the rural environment



Considerations:

- Investing in urban waste water infrastructure and providing free agricultural advisory services are two targeted ways that the last RBMP aimed to reduce nutrient losses to surface waters. What other kinds of measures could be targeted and how?



Useful Links

The sources of nutrients in our waters:

www.catchments.ie/nutrient-modelling-indicates-nutrient-losses-surface-waters-diffuse-sources

Issue 7: Physical Changes to Surface Waters / Hydromorphology (including barriers to fish migration)

Protect and restore natural processes

Background / Why this is an issue

The physical condition (hydromorphology) of surface water bodies provides the habitat and natural processes to support and maintain healthy aquatic ecosystems. Pressures impacting natural flow and silt transport processes can alter the structure of ecosystems, leading to habitat damage or loss. While silt plays an important role in supporting aquatic ecosystems, excessive levels above that expected for certain physical settings, can be detrimental to freshwater and marine life, particularly if it is associated with nutrients and/or toxic pollutants.

Hydromorphological pressures include physical alterations to channels and banks, alterations to the flow or water level regime, and the loss of connectivity within the landscape. These pressures can include straightening, widening, deepening and dredging channels, removal of riparian vegetation, land drainage, abstraction, traditional flood protection structures, development adjacent to surface waters, and barriers such as culverts, locks, weirs and dams which can impact the movement of water and silt and interrupt fish migration patterns. LAWPRO has identified that excess silt is a significant problem in many of our waterways. Sources of silt that may lead to issues include dredging, land drainage, river bank erosion, livestock poaching, runoff from ploughed land, forestry operations and peat extraction. Siltation is dealt with in more detail in the next section.

Hydromorphological pressures are a significant pressure in 329 river, 10 lake water and six transitional water bodies nationally, and is ranked as the 2nd most prevalent significant pressure in river water bodies, 6th in lake water bodies and 5th in transitional water bodies.



What is currently being done

The ultimate goal for Ireland is to put in place a more comprehensive and integrated statutory control regime to manage activities impacting on the hydromorphological condition of the water environment, as well as a prioritised programme of restoration for impacted waters, by the time the third RBMP is published in December 2021. In working towards this a comprehensive programme of work is underway as part of the second RBMP.

The EPA is leading on a national hydromorphology technical work programme that will deliver improved understanding and tools for the management of physical pressures impacting surface water bodies into the future. This work will ultimately feed into the development of a robust regulatory framework to manage physical pressures.

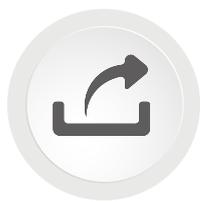
The EPA and OPW are co-chairing the Natural Water Retention Measures (NWRM) Working Group, which is developing a proposal on including natural water retention measures as part of a broader suite of mitigation measures. This group will assist and advise the EPA and OPW on issues related to these measures. This work is supported by a joint EPA-OPW funded research project called SLOWATERS, that will build an evidenced-based assessment on the efficacy of these types of measures on agricultural land. A number of other supporting research projects are also underway.

Inland Fisheries Ireland (IFI) are leading on a technical programme to support the development of a national inventory of barriers to fish migration. Arising out of the work undertaken by IFI it is estimated that there are approximately 76,500 impoundments across the state. IFI is working towards determining the level of risk posed by each and every barrier to fish migration and hence the potential impact on ecological status. Initial estimates by IFI suggest that up to 31% may be potential barriers to fish migration. The national inventory when completed will provide a basis for prioritisation for a national mitigation programme for the third RBMP cycle.

The Department of Housing, Planning and Local Government has commenced a project to assess the feasibility of improving fish passage throughout the Shannon catchment.

The Catchment Care project is an EU funded project, with a wide range of partners, that aims to improve freshwater quality in three cross-border river basins. Addressing hydromorphological pressures is a key focus of the project.

A number of community groups and River Trusts are currently implementing river rehabilitation measures (e.g. Duhallow EIP, Mulkear EIP, Camac river restoration project, Inishowen Rivers Trust). There are also a number of larger programmes that support farmers to improve the hydromorphological condition of waters, such as the Pearl Mussel Project.



Considerations:

- ▶ How can natural processes in waters be protected and restored ?
- ▶ Do you think that natural water retention measures, ie slowing the flow, should be explored further? How could these types of measures be implemented?
- ▶ How should existing barriers to fish migration be prioritised for mitigation (either removal or modification to improve fish migration and natural processes) ?



Useful Links

Catchment Care: www.catchmentcare.eu/

Natural Water Retention Measures Ireland (including SLOWATERS):
www.nwrmieland.wordpress.com/

Inishowen River Trust and natural flood management:
www.catchments.ie/slow-the-flow-natural-flood-management-in-inishowen/

Duhallow EIP: www.irdduhallow.com/environment/duhallow-eip/

Mulkear EIP: www.catchments.ie/the-mulkear-european-innovation-project-eip/

Pearl Mussel Project: www.pearlmusselproject.ie/



Issue 8: Siltation

Keep soil on land and out of waters

Background / Why this is an issue

Abnormally high siltation levels are a cause for concern in respect to ecological habitats and fish spawning grounds as well as being sinks for phosphorous and other contaminants.

Based on evidence from the EPA and LAWPRO, poor practice in the drainage of rivers and land drainage have been identified as causing widespread environmental impacts. Hydromorphological pressures accounted for 28% of at-risk water bodies. Of these 86% were due to channelisation and land drainage. In particular, these types of activities have been causing increased siltation of river beds impacting on WFD ecological status.

Hydromorphological impacts, siltation and enrichment are the main pressures causing Freshwater Pearl Mussel populations to be in a conservation condition classified as unfavourable.

Sources of silt includes:

- ▼ poor agricultural practices e.g. drainage, lack of buffers/catch crops on tillage, farm road ways and animal poaching;
- ▼ soil erosion agricultural practices, e.g. reseeded;
- ▼ poor practices in channel maintenance affecting hydrology and silt deposition;
- ▼ bank collapse due to lack of riparian margins;
- ▼ poorly managed operations in legacy forests;
- ▼ peat extraction, and
- ▼ poorly managed construction activities.



What is currently being done

- 

▼ The Agricultural Sustainability Support and Advice Programme provides specific advice to farmers on source control and pathway interception of silt loss from land as well as on channel maintenance in line with the OPW/IFI 10 steps.
- ▼ The Department of Agriculture, Food and the Marine has introduced forestry policies and legislation as well as the promotion of forestry schemes to mitigate silt inputs to waters.
- ▼ The newly strengthened Nitrates Action Programme (2018-2021) requires that farm roadways be cambered away from watercourses for derogation farms from January 2021.
- ▼ The EPA has developed a technical work programme for the period 2017–2021 to improve assessment methods and knowledge of the physical condition of surface waters including siltation, which will underpin the development of effective regulatory controls and mitigation measures for a range of activities impacting on the physical conditions of surface waters.
- ▼ The OPW will continue to apply best practice during drainage maintenance works.
- ▼ Bord Na Móna is in the process of phasing out the extraction of peat for energy production by 2030 and will look to implement best-available mitigation measures.
- ▼ Publication of the EPA funded SILTFLUX and COSAINT research projects.
- ▼ EPA funded SLOWATERS research project is likely to have multiple benefits both for flooding and silt P pathway interception.
- ▼ LAWPRO identified drainage works as a significant impact on the physical condition on the rivers including loss of ecological habitat and increased siltation.
- ▼ A Drainage working group established as a sub-group of the National Hydromorphology Working Group.
- ▼ In addition, the regulatory framework for wetland drainage and land drainage is currently being reviewed.

Considerations:

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▼ Would you consider source control measures, such as catch crops for tillage and appropriate riparian margins, to prevent soil loss (silt and nutrients) from land and increase biodiversity?
- ▼ Would you consider developing a land management plan to reduce silt and nutrient losses to waters? This could include measures such as drainage towards naturally wet low-lying areas; the use of drain blocks/silt traps.
- ▼ What else should we consider?

Useful Links

OPW 10 Steps to Environmentally Friendly Maintenance: –
www.opw.ie/media/OPW%20Environmental%20Management%20Protocols%20&%20SOPs%20April%202011.pdf

SILTFLUX: www.epa.ie/pubs/reports/research/water/research230.html

COSAINT: www.epa.ie/pubs/reports/research/land/research260.html

SLOWATERS: www.nwrmireland.wordpress.com/

Issue 9: Public Health / Drinking Water Quality

Protect drinking water sources

Background / Why this is an issue

Protection of our drinking water sources (over 1,000 public supplies and over 700 private supplies) is important to ensure the quality of our drinking water supplies and protect public health. Recent public water supply incidents involving water contaminated with pesticides and the risk of Cryptosporidium and Giardia contamination, emphasise how important it is to protect raw water and ensure effective water treatment. Protection of water within the catchment can reduce the pressure on water treatment facilities and the need for more expensive treatment processes and is a key part of the multi barrier drinking water safety plan approach.



While drinking water quality in Ireland is typically very good, at the end of 2018, there were 42 public supplies being investigated by the EPA for exceedances of pesticides, particularly MCPA which is used to spray rushes in poorly draining soils. Eight are listed as priority supplies for mitigation of MCPA issues as of September 2019. Twelve supplies also had inadequate disinfection to protect against bacteria and parasites. Exceedances of Trihalomethanes as a result of chlorine disinfection is a problem in some peaty catchments.

The quality of private water supplies, while improving, still lags behind public supplies (96-97% compared to over 99%). Insufficient registration, monitoring and protection measures are key issues for private supplies, particularly small private supplies.

The Health Service Executive's Health Protection Surveillance Centre (HPSC) has reported an increasing number of cases of VTEC infection in Ireland. Ireland has the highest incidence of VTEC infection in Europe. VTEC (Verocytotoxigenic E. coli) is a particularly virulent form of bacteria which can cause severe diarrhoea and stomach cramps. It is particularly dangerous for children under five or elderly people. Over 80% of primary cases are related to contaminated water. Consumers of water from household wells are at a much greater risk of VTEC infection than those who drink water from either public or private mains supplies.

Useful Links

www.watersandcommunities.ie

www.catchments.ie.

EPA Drinking Water Report 2018:

www.epa.ie/pubs/reports/water/drinking/EPA%20DW%20Public%20Supplies_web.pdf

www.epa.ie/pubs/reports/water/drinking/focusonprivatewatersupplies2017.html

www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021

www.housing.gov.ie/water/water-services/rural-water-programme/minister-murphy-announces-capital-investment-funding

Irish Water drinking water supply information: www.water.ie/water-supply/

www.housing.gov.ie/sites/default/files/publications/files/dhplg_sectoral_adaptation_plan_final_en.pdf

The Source to Tap project:

www.sourcetotap.eu/

The National Federation of Group Water Schemes:

<https://nfgws.ie/>



What is currently being done

Drinking Water Source Protection:

The second River Basin Management Plan (2018-2021) outlined the steps being led by Irish Water, the National Federation of Group Water Scheme (NFGWS), the Department of Agriculture, Food and Marine and the Department of Housing, Planning and Local Government to improve the protection of Drinking Water Protected Areas (DWPAs). These included the adoption of the Drinking Water Safety Plan approach including collaboration between relevant stakeholders. Technical work is now well underway to complete source risk assessments. A number of pilot projects are also being progressed to manage catchment risks.

While the work initiated as part of the second RBMP is progressing, the next phase will pose the following challenges that will need to be addressed as part of the third RBMP (2022-2027);

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▼ Catchment management measures to protect drinking water sources is complex. It involves a wide range of stakeholders including water service providers, regulatory authorities, the agricultural sector, industries and local communities. Reform to the governance and delivery models in both the public and private water services sectors is ongoing. Once these changes stabilise further legislation is likely to be needed to (1) enable safeguard zones to be legally designated, where appropriate, (2) provide for strengthened protection measures within these zones and (3) assign legal responsibilities in protecting drinking waters through safeguard zones.
- ▼ Strong and effective coordination mechanisms will be required between stakeholders.
- ▼ With increasing pressures on DWPAs such as increased demand from growing populations and economic activities and climate change impacts (e.g. increased pollutant run-off and reduced available water resources) the risks to water supplies will need to be continuously monitored and managed over time.
- ▼ High risk activities in critical source areas within safeguard zones will need to be managed effectively. This may require partnership arrangements between critical stakeholders to ensure that activities and land management practices in the critical source areas are compatible with and preferably contribute positively towards protecting drinking water sources.
- ▼ The risks to groundwater and surface water drinking water sources are different in nature and will likely require different management approaches.
- ▼ Lessons from the various ongoing pilot projects will be important for informing future actions for protecting drinking water sources.
- ▼ A particular focus is needed to improve the registration, monitoring and protection of small private water supplies, because of the consistently poorer quality and information deficits in this subgroup of supplies.
- ▼ A greater focus is needed to promote the protection of households wells from the risk of VTEC contamination. It is vital that a well used as a water source is properly constructed and protected to prevent contamination by VTEC. This can arise from the spreading of animal slurry nearby or a poorly sited and/or poorly maintained septic tanks.

Considerations:

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▼ What can we do to improve the resilience of our drinking water supplies and their associated ecosystems? How can climate change impact on this resilience?
- ▼ Who should implement drinking water source protection? How can a collaborative approach in the catchment be fostered? How can we engage with landowners and the wider public?
- ▼ How can we realise co-benefits from source protection including for biodiversity and climate?
- ▼ How would you describe our attitudes to water usage and the value of water? How could we develop in this area?

Issue 10: Invasive Alien Species

Stop Invasive Alien Species



Background / Why this is an issue

Invasive non-native species are a threat to our biodiversity, ecosystem functions and have a cost to our economy. Non-native species introduced either intentionally or unintentionally into aquatic environments can become highly invasive, are often impossible to eradicate and are difficult to control and contain. Invasive species in aquatic and riparian areas can change the ecology and structure of the environment including by: reducing native species diversity; exacerbating flooding; destabilizing river banks; reducing access to the waterbody; impacting on fish health and affecting local economies.

Since the 1980's there has been a rapid rate of increase in introductions into the freshwater environment and predications show that 6 of the top 10 species likely to arrive, establish populations and become highly invasive in the future are freshwater species.



What is currently being done

Measures to prevent the introduction of new species and to contain and control existing populations to reduce their negative impact are needed. In order to do this effectively, a strategic approach encompassing the national, river basin district, catchment and site level is needed with coordination of effort from many public bodies, key stakeholders and the general public. Invasive non-native species are a significant economic, biodiversity and in some cases human health issue for water management in Ireland and a threat that requires a significant response.

An example of a coordinated response to an invasive alien species was the recent spread of the crayfish plague. The disease is caused by a water borne fungus (*Aphanomyces astaci*) which infected the native white-clawed crayfish, a protected species. The disease spread to several catchments across the country including; the River Suir, River Deel, Lorrha River, River Barrow, River Bruskey, Al River, River Maigue, River Clare and the River Nore. Significant efforts were made by the National Parks and Wildlife Service (NPWS), LAWPRO and the National Biodiversity Data Centre to raise awareness of the presence of the disease and to promote biosecurity measures to prevent its further spread.

The NPWS introduced a scheme in 2018 under the National Biodiversity Action Plan to specifically target invasive alien species. Under the scheme local authorities may include in their applications projects that target invasive alien species in their areas. However, more is needed and the challenges encountered in the crayfish plague campaign highlighted the need to significantly improve the collaborative approach nationally to prevent the introduction and spread of invasive alien species in general.



Asian Clam



Himalayan Balsam



Considerations:

- ▶ In your opinion, what invasive species are the biggest concern in Ireland?
- ▶ What more could be done to help prevent the introduction and spread of riparian invasive species at a national level and a local level?
- ▶ How can the awareness of invasive species at local level be improved?



Useful Links

www.biodiversityireland.ie/projects/invasive-species

www.invasivespeciesireland.com

Issue 11: Hazardous Chemicals

Keep hazardous chemicals out of water

Background / Why this is an issue

Hazardous chemicals including pesticides, pharmaceuticals and other synthetic substances are used in a wide range of common products ranging from household, gardening and agriculture applications all the way up to large-scale industrial processes. Although the vast majority of chemicals found in waters are currently below levels of concern, there are growing numbers and increasing levels of them being discharged to waters. That's why we need to think about how we manage these chemicals into the future. It is not always possible to fully remove them with existing industrial or urban wastewater treatment technologies or else the cost of removal can be prohibitively expensive. Discharges together with non-point source discharges such as stormwater or overland flows, can result in their release to the broader environment. Some of these have been found to cause toxicological effects and can be persistent in the environment, ultimately accumulating in animals and/or our food chains or finding their way in to drinking water sources.

A number of pesticides, including Mecoprop, MCPA and 2,4-D continue to be detected at low concentrations at a large number of river monitoring sites during routine monitoring. More recently, a scoping study carried out by the EPA in 2017 – 2018 detected the presence of the insecticide Cypermethrin in rivers at multiple locations across Ireland and this substance has recently been added to the national monitoring programme. Mecoprop, MCPA, 2,4-D and cypermethrin are all known to be in common use in Ireland.

About 3,000 active pharmaceutical ingredients are on the market and sales have quadrupled since 1990. Most conventional urban wastewater treatment plants are not able to remove all the active ingredient and environmental concentrations of these compounds and are likely to increase as the population grows. Any one of these contaminants may not be of concern from a human health point of view, particularly at the low levels at which they occur, however, uncertainty about the potential toxicity of mixtures of such contaminants on wildlife requires further research.



What is currently being done

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▼ The National Aquatic Environmental Chemistry Group (NAECG) was established to bring together national expertise on hazardous chemicals in the aquatic environment, and to bring a new smarter strategic approach to the management of hazardous chemicals in the aquatic environment into the future.
- ▼ A national monitoring programme for priority and specific substances has been established. The programme is evolving to accommodate new compounds, which may be added at either EU or national level.
- ▼ The Pesticide Registration and Control Division of DAFM control the pesticides that are used in Ireland as well as implementing the Sustainable Use of Pesticides Directive. This requires the compulsory registration and training of professional users of pesticides (farmers and others), and for the application of buffer zones around drinking-water abstraction points.
- ▼ The National Pesticides in Drinking Water Action Group (NPDWAG) provides a platform for collaboration across state bodies, industry and farming bodies in protecting natural waters and drinking waters from pesticide contamination. The Group has initially focussed on MCPA and has achieved a number of successes to date.
- ▼ The EPA will continue to review and develop its analytical capabilities for assessing hazardous chemicals in Irish water bodies to take account of any new priority and priority hazardous substances specified by the Commission or new specific pollutants identified specifically for Ireland.

Considerations:

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▼ How can information on current sectoral pesticide usage statistics (Agriculture, local authorities, forestry, amenities and domestic (home and garden)) be improved to help in assessing risks to water in catchment areas?
- ▼ How can citizen's behaviour regarding the safe disposal of medication be influenced and changed? What other measures can be taken to prevent medications from ending up in wastewater treatment plants?
- ▼ How can consumer choice be better guided towards choosing personal care products that don't impact negatively on the water environment?

Useful Links

EPA water quality report :

www.epa.ie/pubs/reports/water/waterqua/waterqualityinireland2013-2018.html

Issue 12: Urban Pressures

Make towns and cities more compatible with good water quality

Background / Why this is an issue

Impacts on rivers in our towns and cities are varied and plenty. Pollution comes from surface and waste water drainage, transport, industries, housing, etc.

Urban pressures include the discharge of inadequately treated waste-water effluent, intermittent discharges from storm-water overflows and urban runoff (i.e. misconnections from private foul connections to storm sewers, leakage from sewers and runoff from paved and unpaved surfaces). There are deficiencies in many public sewers and treatment plants, due to a legacy of underinvestment. Consequently, waste water from some areas discharge into the environment without adequate treatment or collection, placing a significant pressure on the natural water environment. Runoff from paved and unpaved surfaces can mobilise pollutants and put increased pressure on wastewater collection systems. Urban pressures are a key potential source of nutrients (phosphorus and nitrogen) and pathogens (disease causing organisms).

Urban pressures are estimated to be a significant pressure in 327 river, 17 lake, 24 transitional and four coastal water bodies nationally.

Research has shown that human activities, climate change and population growth in urban areas over the years have a ubiquitous effect on surface water quality, habitat alteration and reduction in biodiversity due to the significant load of pollutants from point and diffuse sources. The combined pressures from Urban Waste-Water, Industry and Urban Runoff was identified as the 2nd highest ranking risk to our rivers and transitional waterbodies not achieving good status in the second RBMP cycle. Increases of impervious surface cover due to urbanisation means that present day management of an urban river requires a holistic approach in terms of planning, flooding, surface water networks, biodiversity, hydromorphology and water quality.

With increasing urbanisation, river restoration and the use of Green Infrastructure are vital measures for improving and maintaining rivers in our towns and cities for future generations. Urban runoff delivers pollutants from roads, public areas and roofs predominately via a gully and surface water pipe to the river. Developing green infrastructure policies for new developments and the retrofitting of existing areas will provide both a water quality and flood prevention benefit to our urban environments.



What is currently being done

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Investment by Irish Water to ensure full compliance with the Urban Waste Water Treatment Directive. Over the period 2017–2021, Irish Water will invest approximately €1.7 billion in waste-water projects, programmes and asset maintenance. Projects in 255 urban areas, achieving water quality improvements and compliance with the requirements of the Urban Waste Water Treatment Directive, will be completed. Drainage area plans will be prepared for 44 urban areas and other water bodies will benefit from improved plant performance resulting from process optimisation and minor works.
- Studies and assessment of hydromorphology impacts in urban areas by the OPW, EPA and IFI etc.
- High-level guidance for Planning Authorities on the relationship between physical planning and river basin management planning to ensure consistency with the WFD requirements.
- Climate Action Plans incorporating water quality issues including in urban areas.
- The EPA will continue to authorise and regulate waste-water discharges from urban areas, taking account of the improved evidence obtained during the second river basin management cycle.
- Long-term management and control of Invasive Alien Species.

Management of urban river catchments is particularly challenging with the added pressures arising from climate change and projected population growth in these areas.

Many of the measures outlined above which are underway will benefit urban catchments. In addition there is a need to take a more comprehensive and strategic approach to undertaking river rehabilitation in urban areas, as well as examining the opportunities for incorporating more sustainable drainage systems and green infrastructure.

Considerations:

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How can Green Infrastructure be best applied in Ireland to benefit water quality and the alleviation of flooding in towns and cities?
- What are the particular issues associated with river restoration in urban rivers, and are we applying appropriate actions?
- Are there any additional concerns in relation to urban pressures that are currently not being considered in Ireland?
- What other actions do you think could be put in place to reduce the pollution of waters caused by urban pressures?

Useful Links

www.watersandcommunities.ie

www.catchments.ie

Irish Water Business Plan: www.water.ie/docs/Irish-Water-Business-Plan.pdf

Waste Water Discharge Application, Authorisation or Environmental Information: www.epa.ie/terminalfour/wwda/index.jsp

Part 5: Other Issues

During the preparation of this consultation document, a pre-consultation workshop for key stakeholders was held on 19th November 2019 in Dublin Castle. During discussions, some additional issues were raised by a number of stakeholders. Most of these were relevant to the issues described in Part 4 and have been incorporated accordingly. Others were separate issues for which there was limited information available up to the point of publication. However, these issues will be investigated further over the coming months to determine whether they require further action and whether such action needs to be taken under the third River Basin Management Plan or through other more appropriate mechanisms.

Other issues which need to be investigated further to determine their significance include:

Aquaculture – Some concerns were raised in relation to two aspects of the aquaculture industry in Ireland, namely finfish and shellfish farming. In the case of finfish farming there can be risks to the status of water bodies in which the industries operate. While the sector is subject to an authorisation process the environmental performance of the sector may need to be examined further. The impact from finfish farming, where sustainable best practice is not implemented, can include impacts on water quality, biodiversity, the condition of the local habitats, risks from the use of pesticides and threats from non-native introduced species. In relation to shellfish farming the main concern related to the potential for contamination of shellfish arising from land-based activities, particularly waste water discharges.

Antimicrobial Resistant (AMR) bacteria in waste water - Antimicrobial-resistant bacteria are becoming more common and widespread contaminants in farmed animals and human faecal wastes and the wastewater arising. There are also increasing concerns about the role the environment may play in the spread of clinically relevant antimicrobial resistance. Environmental regulators monitor and control some of the possible pathways responsible for the release of antimicrobials into the environment, e.g. through water contamination and agricultural run-off. However, a greater understanding of many of the key issues in relation to the environmental role will further enhance the delivery of environmental protection from AMR.

Part 6: Remember to Respond - We need your input

The Department is interested in hearing your views on the content of this document and the significant water management issues facing Ireland.

As noted earlier, your input will help prepare the next River Basin Management Plan and shape the overall management of the water environment in Ireland.

It is important to emphasise that any individual or group may participate and the Department welcomes and encourages engagement by all in this consultation process.

The Department is particularly interested in receiving your feedback in relation to specific questions identified for each of the issues outlined in Part 4 of this document. However, you do not have to respond to every question in the consultation. If you have a specific area of interest, you are free to respond to just those questions.

An online survey, to allow you to make your comments more effectively, while helping us to gather and summarise responses quickly and accurately, is available at www.surveymonkey.com/r/3HGB3HZ.

Alternatively, a response template containing all the questions has been prepared to make it easier for people to respond effectively. This form can be downloaded from the consultation section of the Department's website at www.housing.gov.ie. Completed templates should be emailed to rbmp@housing.gov.ie.

You are also welcome to return any further views, comments or observations you wish, ideally through the online survey or alternatively set out on the template provided. However, you are respectfully encouraged to outline your views as briefly and concisely as possible.

The final date for receipt of replies is close of business on Friday, 26th June 2020. Receipt of submissions will be acknowledged, but it will not be possible to issue individual responses.

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